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Excess of Crude from Other Districts Is Brake on West Texas for 1928

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, Dec. 24

ABUNDANCE of crude from other sources in 1928 will be the best check on development of the new pools in west Texas next year.

Excess supplies of crude from the Seminole district in Oklahoma, California and Venezuela, plus general market conditions, will act together to bring about an economic situation more influential in checking west Texas production than any other consideration.

California avoided increasing its overall storage stocks in 1927 by liquidation of the year's excess of crude and products through Panama Canal shipments to eastern seaboard markets and Atlantic foreign destinations. With Venezuela figuring importantly in the 1928 crude oil picture, and California faced with increased daily average production next year, it is now inconceivable that the Pacific Coast can avoid renewal accumulations to storage that possibly will increase stocks 15,000,000 to 20,000,000 barrels in 1928.

Venezuela crude averaging about 200,000 barrels daily after Jan. 1, can be moved in tankers to Atlantic and Gulf ports as cheaply as 30 cents a barrel. Now that the Lago (Standard of Indiana), Gulf and Royal Dutch-Shell companies have abandoned the operating restraint practiced in Venezuela in 1927, some important part of next year's 100,000,000 barrels estimated production may be expected to reach United States ports. Also this crude, marketed into foreign channels, may displace American oil.

Undrilled areas in the Greater Seminole district that are now under relative restraint cannot be held back altogether. This Oklahoma producing territory will probably yield not less than 90,000,000 barrels of crude in 1928, as compared with approximately 130,000,000 barrels in 1927. Maintaining Seminole production on this basis would mean a Mid-Continent excess of no less than 30,000,000 barrels in 1928.

Consideration of the foregoing phases of the general situation brings the analyst back to west Texas, where market factors also must be taken into account.

Definite limits surround the ability of the refinery and fuel marketing branches of the industry to absorb crude supplies. Studies of fuel outlets in world markets indicate there will be no increased demand in 1928, although competition is bringing about radical readjustments with regard to what interests furnish the supplies. Millions of barrels of fuel contracts made by the Standard Oil Co. of New Jersey on the Atlantic seaboard are said to represent mainly business taken away from other suppliers and not increased purchases by present users.

Exports generally are estimated for 1928 at 10 per cent lower than in 1927, reflecting in part the entrance of Venezuela more definitely into the picture. Increased consumption next year would appear limited mainly to the normal gain affecting products in domestic marketing channels.

The subject of price becomes important at this stage of discussion. High sulfur content crude from West Texas must compete

1928 Production Outlook

(Taken from Staff Writer Wagner's accompanying article)

California to add 15,000,000 to 20,000,000 bbls. to stocks.

Venezuela to produce 100,000,000 bbls.

Seminole district to produce 90,000,000 bbls.

Mid-Continent excess output in 1928, 30,000,000 bbls.

West Texas production over 200,000 bbls. daily for first six months of 1928 and over 250,000 bbls. for last six months, to go into storage.

Production in Yates pool, Pecos county, Texas, to be held back for six months at least by operators' pro-rating agreement.

Last half of 1928 may find Hendricks field, Winkler county, Texas, in throes of drilling campaign and serious over-production.

with more desirable "sweet" oil from Venezuela and the Seminole district, if its output is to be measurably increased above the level of 200,000 barrels daily for the first half of 1928.

Before July 1, next, the Shell Pipeline Corp. should have completed 30,000 barrels daily outlet from west Texas to connection with its Mid-Continent system in the Healdton, Okla., district. Illinois Pipeline Co., companion corporation to Mid-Kansas Oil & Gas Co., probably will have 25,000 barrels outlet to the Gulf Coast, near Corpus Christi. Humble Oil & Refining Co. will be providing outlet for 110,000 barrels daily through its subsidiary pipeline and its 10,000-barrel McCamey topping plant. Gulf Pipeline Co. will be handling about 30,000 barrels daily through its west Texas trunk system and Magnolia Petroleum Co., 20,000 barrels daily through its Midland-to-De Leon line which has just been placed in operation.

Allowance is also made for 25,000 barrels daily to be disposed of by the allied Southern Crude Oil Purchasing Co. and Southern Pipeline Co., arms of the Pan American Petroleum Transport Co., which in turn is controlled by Standard Oil Co. of Indiana. Whether these interests will go ahead with previously proposed trunk pipeline construction is not known; but, in the meantime, they have shipped as high as 29,000 barrels of crude daily in tank cars over monthly periods. The Texas Co. may ship as much as 10,000 barrels daily of crude in tank cars from its McCamey concentration base and perhaps 15,000 barrels daily will move to other destinations via railroad.

INDEPENDENT OIL & GAS CO., early in December, made a contract with New Orleans Refining Co., for delivery of 12,000 barrels daily of Winkler county crude over a period extending well into 1928; and American Petroleum Co. of Houston contracted with Rio Grande Oil Co., of El Paso, for sale of 2,000,000 barrels total deliveries next year.

Any amount over 200,000 barrels daily average for the first six months of 1928 and over slightly in excess of 250,000 barrels daily after July 1 of west Texas crude production will have to go into steel storage in the field and at nearby tank farms. Outside of the Big Lake field of Reagan county, producing about 25,000 barrels daily, west Texas operators have avoided building more steel storage than absolutely necessary in order that they might avoid corrosive action of high sulfur crude on tankage. Speaking broadly, this policy will be continued. However, field conditions and elasticity of pipeline working tankage will necessitate considerable additional construction. Already, the general west Texas territory includes more than 24,000,000 barrels of steel storage construction; and this despite the policy mentioned. This tankage is distributed over an area 125 miles from east to west and an even greater distance from north to south; also a large percentage of the capacity fits in with pipeline concentration bases.

ABOUT 250,000 barrels daily average production is now coming out of the west Texas general territory, exclusive of 10,000 to 12,000 barrels daily accredited to the Mitchell, Howard and Scurry county areas, which has usually moved into established consuming channels.

The University (Church & Fields) pool and McElroy ranch areas of Crane county continue to account for 110,000 to 115,000 barrels daily production; the McCamey district of Upton county about 18,000 settled yield; the Yates field of Pecos county approximately 50,000 barrels daily; and the Hendricks development of Winkler county between 50,000 and 55,000 barrels daily.

Hendricks production, restrained only by the physical limitation of its being without trunk pipeline outlets, is in an area more feared than any other for market eventualities. Unlike the Yates field of Pecos county, where marketed production has been kept below 10 per cent of the rated potential capacity of completions, the Hendricks development area is dependent entirely on the individual action of operators in pinching or shutting in their wells.

Short pipelines to loading racks on the Texas-Pacific railroad were built by the Pan American subsidiaries and by the American Petroleum Co. (J. S. Cullinan interests of Houston), who now have the only outlet facilities. Other short pipelines to loading racks are planned, however, by Independent Oil & Gas Co., Humble Oil & Refining Co., and The Texas Co., which last mentioned will connect up an 8-inch gathering system serving Winkler, Crane, Ector and Upton counties through a concentration base at McCamey for tank car shipments.

West Texas Pipeline Co., subsidiary of Atlantic Oil Producing Co., which is building a 10-inch line 71 miles from the Hendricks field to Midland, will provide the first trunk outlet for Winkler county. Although its system is a short line in itself, the Atlantic subsidiary will gather crude and transport it to Midland for its own account and for the Magnolia Petroleum Co., which will furnish an outlet to the general markets through its Midland-to-De Leon system.

The 10-inch trunk of the Shell Pipeline Corp., from west Texas to Healdton, Okla., which is to be completed in the first half of 1928 will be the next main line outlet from Winkler county, unless the Gulf connects the Hendricks field with its Midland concentration base in the meantime. Gulf construction would call for about 70 miles of pipeline.

If the Gulf builds into the field it may be inferred it will continue its recent policy of constructing outlets for controlled crude only. The Shell however, will probably enter the territory as a common purchaser, in addition to running its own oil. Similarly, the Magnolia may elect to make field purchases of "outside" production. Therefore, it is possible that the last half of 1928 may find the Winkler area in the throes of a drilling campaign and serious over-production, unless some measure of operating restraint is undertaken in the meantime.

THE Yates field situation is viewed with less alarm, because of the smoothness with which the pro-rating committee work has gone ahead. The new agreement providing for an acreage yardstick instead of a potential production basis of pro-rating is scheduled to continue for six months after its effective date, Jan. 1, next.

The Gulf Production Co., whose disfavor to the potential production plan had been feared, is considered by other operators to be satisfied with the acreage yardstick; and the Yates field sky is now serene except for a kick against the new plan by Simms Oil Co., of Dallas. Gulf has not signed the pro-rating agreement, in keeping with its policy of not taking part officially in such covenants, but it is satisfied with the present plan.

What will come of the Simms protest against the acreage plan of pro-rating runs is a question, but advices from Fort Worth indicate a new meeting of the committee will not be called unless a majority of the companies signing the agreement signify their willingness to discuss the situation further.

Under the acreage pro-rating basis, the Simms Oil Co. was found by the committee to be entitled to 2.6 per cent of the market outlet of the field, amounting to 48,000 barrels daily. In order that agreement might be reached with Simms, other operators expressed their willingness to pare down their own allowable runs so as to permit the Simms company 6 per cent of the market outlet. This also is unacceptable, it now appears from a communication sent the pro-rating committee by the Simms company.

Denial has been made by the Simms company that it contemplates a pipeline from the field to tank car loading racks in the McCamey district and it is also said Simms will not build tankage in the Yates field at this time.

Whether or not the Simms company decides before Jan. 1 to continue a party to the agreement it is the generally expressed view in west Texas operating circles that other Yates field producers will continue cooperative steps.

Jobbers Groping for Trade Pullers Following Success of Cushions

By Roger B. Stafford
N. P. N. STAFF WRITER

CLEVELAND, Dec. 27

PREMIUMS, or as one company puts it "courtesy merchandise", will be more of a factor in gasoline and motor oil marketing through service stations in 1928 than ever before. This prediction is well supported by evidence already at hand and by the interest being shown by scores of marketing companies in what some gasoline marketing companies have done in the last six or eight months with premiums.

Distributors who have used cushions as trade pullers in the last year, have been showered with requests for their experience with these premiums. Many of the inquiring distributors are yet in doubt about whether they should offer premiums, their letters indicate, but all seem anxious to do something to get more gasoline and oil customers into their service stations.

Although some of the premium users attribute increased gallonage or price maintenance to the premiums, particularly the cushions, other companies that have used premiums in connection with oil and gasoline distribution in Michigan, Ohio, Indiana, and Kentucky, are not wholly convinced that premiums are good things. However, none is considering discontinuance of premiums at present, although most favor holding down this "courtesy merchandise" to one or two quick moving articles that have some use about an automobile and which can be sold at a small margin over the cost and still at less than $1.

Cushions of velour, mohair, and other upholstering materials have been used by the thousands, as reported in NATIONAL PETROLEUM NEWS for Dec. 7. The cushions are 17 inches in diameter and 5 inches deep. The bottoms are of a composition leather-like material. They have been sold to gasoline distributors at $9 a dozen f.o.b. city of manufacture and have been sold by oil companies at 75 cents to $1 each with five coupons which were given the purchaser of five gallons of gasoline or $1 worth of gasoline and oil. Most oil companies sold them at 85, 89 or 90 cents, which covered the cost of the cushions, the printing of coupons and handling charges. Profit was trivial if any was made.

The cushions became a fad in many localities last summer but demand subsided considerably with cold weather because many of them were used on porches, at camps and in summer homes besides automobiles. Some persons have bought them for Christmas gifts but demand for that purpose is limited, said several oil distributors who are selling the cushions. Largest demand at present is in the southern states.

MARKETERS who have had success with cushions, looked about when fall came for other articles but nothing was found that moved quite so fast and created so much interest. Steamer rugs, lap robes, flashlights and sundry other articles were offered. The steamer rugs—fringed heavy woolen blankets—were sold usually with 10 coupons and $5.45, $5.95 or $6.95 in cash, depending upon the oil company's buying power, operating costs and probably other incidental expense. The lap robes of velour and mohair were made by the cushion manufacturers. They are being sold through gasoline stations at $4.75, $4.95 or $5 and 10 coupons cash each.

THE rugs and robes were bargains at the price. The rugs, according to design and quality, retail at $10 to $12.50 in the luggage and department stores. But the market for a $5 or $6 article is much narrower than for a 90-cent article—just as Ford sells more Fords than Lincoln cars and General Motors more Chevrolets than Cadillacs.

One large distributor who has used many of the cushions and numerous larger articles, described the ideal service station premium as, "an article that can be sold at a small profit for less than $1, which shows in itself it is a real bargain, which does not require any sales effort from the service station attendant and which will have a repeat appeal."

He then continued that one or two robes would be all any customer could use. One flashlight was about all a customer would want, and the same assertion could be said of many other articles. He said the cushions met the ideal set-up for a premium because he had knowledge that as many as 16 cushions went to one family. That meant that about $80 worth of gasoline and oil were bought by that family last summer and fall in getting the cushions.

But even cushions may have a limit. A large Ohio gasoline distributor said he put in the cushions as an experiment at stations in districts where price cutting threatened his profits. He was successful in upholding his price. He credited the cushions with getting some new customers into his stations and good gasoline and oil with holding them as customers after they had obtained the cushions they desired.

"You cannot use premiums to sell poor goods," he warned and added another warning that poor premiums would ruin a good gasoline and oil business.

Children's scooters have been used successfully by grocers as trade pullers but in the opinion of W. R. Bailey, Wilson Bros. Oil Co., Detroit, they are not so good for the gasoline business. He summarized his reasons

Ideal Premiums

WHAT constitutes a premium article of merchandise that can be used by the oil marketing companies successfully in building up its gasoline sales, or in holding its prices in the face of lower price competition at other stations? Experience so far has shown that:

It should be some article of which the average family can use several, at least more than one.

It should sell to the public at not more than $1.

It should show that it is a bargain at the price.

It should be something that does not have to be demonstrated at the station.

It should not be some article appealing to children that draws them to the station.

It should be some article that does not figure prominently in sales of other merchants in the community.

It should be a luxury, not an article that everyone knows he ought to have.

for this opinion as follows:

Children of the neighborhood, anxious to look at the scooters, crowd into a station where they might be hit by an automobile, or at least interfere with automobile traffic into and out of the station. Those that had scooters, would use the concrete drives at the station for their scooting many times. They would then be in danger. If the attendant would tell them to stay out their parents, upon whom the station depends for gasoline and oil trade, might be angered and drop their patronage. The grocer might put a sample scooter in his window and keep the children on the sidewalk but a gasoline station is away from the sidewalk so the children would flock over the drives.

ONLY a small inventory of quick moving premium goods was needed by the oil companies. Many companies have been carrying only $100 or less in the cushions because shipments were made the day the manufacturers received the order or the day after. Many of the shipments would reach the oil company two days after the order was mailed. Some companies have cushions moving to them regularly. One Ohio company gets a shipment of 12 dozen daily.

Not more than a carton of two dozen cushions have been carried at any service station, several large marketers said. The cartons of cushions have been delivered by tank trucks, being fastened to the can racks. Station salesmen are held accountable for all cushions and two companies that lease their stations to individual operators require the tank truck driver to collect for the cushions when they are delivered.

Selling has been simple. The cushions have been placed in windows or strung on wires where they could be seen by every gasoline and oil customer. A placard also was placed prominently, telling how the cushions might be bought and the price. Handbills giving the same information were distributed. Coupons were given the gasoline and oil purchasers. A few newspaper advertisements with a picture and description of the cushions were used by several companies and this advertising was figured into the cost of the cushions.

Price was an important factor. One company in Detroit put cushions on sale at $1.50 each, a fair markup for that class of goods, but failed to have much success in moving them. Another company sold them at 85 cents and five coupons. It sold 42,000 at 46 stations in four months. As soon as sales slackened in late summer, notice was posted at the stations that sale would be discontinued Oct. 1. A fair volume was moved through September and the sale was extended to Nov. 1 when cushions were dropped and steamer rugs put out. The manager of this company said customers asked station men if more cushions would be sold and the manager of one station even bought some of the cushions at his own risk to help to maintain the interest in his particular station. Coupons are still being given out but the effect on the gallonage because a higher priced article is being sold instead of a low priced has not been ascertained. The manager said he probably would resume the cushions about April 1 and meantime would sell flashlights to satisfy the trade that didn't want a blanket. This company requires that all coupons redeemed must be signed by the customer. This has given the company a good mailing list.

One company gave away cushions instead of selling them, but this did not work so well as when the cushions were sold at slightly more than the purchase price. The motoring public seemed wary of the gift and perhaps skeptical of the company's regular goods.

IN SOME states there are rigid regulations governing the giving away of premium coupons, trading stamps and such trade pullers. In one state a large distributor sold the gasoline customer a cushion on the first call but had him sign a pledge that he would return four more times to fulfill his part of the bargain by which the oil company let him have a cushion immediately. In another state a cash value must be put on coupons. A value of ½ cent per coupon which was given with purchases of five gallons of gasoline, was set but after many months no coupons have been presented for redemption in cash, the manager said.

This company used the cushions in new territory and where a low price had been started or was imminent. It was able to establish itself and its price structure, the manager said, but he said no premiums would be used in territory where the company was well known, so far as he could predict at present. Changed marketing conditions may cause a policy change, he indicated.

Losses of cushions at service stations have been slight. The company that sold 42,000 in four months lost only six dozen or 0.17 per cent because of soiling and tearing, the manager said. The cushions were strung on a wire at the station and no special effort was made to protect them. They moved too fast to become shopworn, several oil company managers said.

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WHAT is the attitude of merchants when oil companies in the community offer as trade pullers articles like or similar to merchandise they have for sale?

What is the attitude of retail merchants' boards about premiums in general?

Has the oil company that has offered trade pullers at a low price received a "kick-back" because he has entered a field some other merchant regards as his?

These questions involving a vital subject now confronting the marketing branch of the oil industry, and others, will be answered in subsequent discussions of the trade puller idea in an early issue of NATIONAL PETROLEUM NEWS.

Coming Meetings

Wisconsin Independent Oil Jobbers Association, Plankinton Hotel, Milwaukee, Jan. 11.

South Dakota Independent Oil Jobbers Association, Sioux Falls, S. D. Jan. 18, 19.

Michigan Independent Oil Men's Association, Statler Hotel, Detroit, Feb. 2, 3.

Iowa Independent Oil Men's Association, Savory Hotel, Des Moines, Feb. 8, 9.

Illinois Petroleum Marketers Association, Hotel Abraham Lincoln, Springfield, Ill., Feb. 15, 16.

Ohio Petroleum Marketers Association Spring Convention and Exhibit Exposition, Neil House, Columbus, O., Feb. 22, 23, 24.

American Oil Men's Association, Hotel Stevens, Chicago, March 6, 7 and 8.

American Oil Burner Association, Hotel Stevens, Chicago, April 3, 4, 5, 1928.

National Petroleum Association, Cambridge Springs, Pa., April 19, 20.

Correction

In the article, "Making Neglected Refinery By-Products Pay a Good Profit", published on page 19, Dec. 21 issue of NATIONAL PETROLEUM NEWS, it was erroneously stated that "water gas contains only about 500 to 600 B.t.u. to the 1000 cubic feet. State and city governments usually demand a B.t.u. content of around 900 to 1000 per 1000 cubic feet of gas."

The fact is that water gas contains about 300 B.t.u. per cubic foot and state and city requirements usually are for 450 to 550 B.t.u. per cubic foot. It is to increase the B.t.u., content of water gas to meet requirements that it is the practice to enrich it by gasifying gas oil.

Master's Report in U.S. Patent Club Suit Does Not Shut Door to Further Attack

By Paul Truesdell
N. P. N. STAFF WRITER

CLEVELAND, Dec. 24

THE report of Special Master Charles Martindale in the suit brought three years ago by the government against the members of the Patent Club and their licensees, does not shut the door to further attempts to upset by legal action the validity of any or all of the cracking patents upon which the Club is founded. It is likely, however, that the report of the master, if accepted by the court, would add to the difficulty of challenging them successfully.

The master filed his report Dec. 6 in federal district court in Chicago, whose judges, Evan A. Evans, George T. Page and Albert B. Anderson, had appointed him on March 13, 1925, to hear the case. Mr. Martindale, as reported in Dec. 7 issue of NATIONAL PETROLEUM NEWS found that the patents on which the Club is based are important patents, that the defendants did not unlawfully combine to restrain trade and that the royalties charged licensees by members of the Club were reasonable under the circumstances. In other words, his report is favorable to the defendants at every point.

Whether the judges will accept the master's recommendations and hand down their decision accordingly is not known but it seems a fair assumption, inasmuch as they appointed him in order to prevent the long-drawn trial from cluttering up their court for months, that they will be likely to accept his report at its face value.

The master does not pass upon the validity of any of the patents at issue but he does dispose of the contention of the government that they were unimportant and comparatively trifling factors in the development of the refining art. The government sought to support this contention by citing prior art, evidently designed to show that knowledge displayed therein would have been sufficient to guide refiners to about the same results they have achieved, even if none of the challenged patents had ever been issued.

WITHOUT at any point considering whether the patents are valid or not, as the master is careful to point out, his opinion, nevertheless, seems to stamp them all with a presumption of validity and soundness that, if not indelible, would at least be extremely difficult to erase from the mind of a court that might try lawsuits based on any of these patents in the future.

Not only is the Patent Club's position apparently strengthened insofar as liquid phase cracking is concerned, but it appears that it is put in more favorable position at least as regards vapor phase cracking also by the master's opinion on three of the patents issued to William A. Hall. Hall is one of the pioneers of vapor phase cracking, whose patents are now owned by The Texas Co. Because of the cross license agreement between the Standard of Indiana and The Texas Co. the former and probably other members of the Patent Club have some rights also in the Hall patents and hence in vapor phase cracking.

After stating that the government admitted it had no right to attack collaterally the validity of the patents referred to in the petition, and that he had ignored that part of the petition which charged invalidity, the special master goes on to say:

"The issues, so far as the scope of the patents is concerned, as the master conceives, are:

"a—Are the patents for only 'minor improvements', or of little importance in the industry, and not now used in the commercial processes of any of the defendants, and not reasonably likely to be used in future development of the art?

"b—Are the royalties and conditions imposed by the contracts (licenses) reasonably within the reward which the respective patentees, by the grant of the patents, are entitled to secure?

"c—Have the defendants by their contracts, 'pooled' their patents or 'combined' them for the purpose, with the effect, of intimidating or restraining others from entering into the business of manufacturing cracked gasoline unless they consent to pay onerous royalties upon negligible patents?

"It is for the purpose of resolving these issues and in no respect to impeach their validity or limit their scope, or adjudicate questions of past or present infringement as between any of the defendants, that the special master now examines the patents and the prior art."

He examines them and how?

HE states that the government's petition attacks 23 patents owned by the Patent Club. These are shown in the accompanying table. It appears that they cover essentially

The 23 Patents Attacked by the Government

Inventor	Patent Number	Dated	Improvement In
William M. Burton	1,049,667	Jan. 7, 1913	Manufacture of gasoline
do	1,105,961	Aug. 4, 1914	Manufacture of gasoline
do	1,167,884	Jan. 11, 1916	Petroleum product
E. M. Clark	1,119,496	Dec. 1, 1914	Method of distilling petroleum
Robt. E. Humphreys	1,119,700	Dec. 1, 1914	Method of distilling hydrocarbons
E. M. Clark	1,129,034	Feb. 6, 1915	Art of petroleum distillation
W. M. Burton	1,160,687	Nov. 16, 1915	Method of safeguarding stills
Frank B. Lewis and Thomas S. Cooke	1,392,584	Oct. 14, 1921	Art of distilling petroleum oils
W. M. Burton and E. M. Clark	1,448,254	Mar. 13, 1923	Process of treating petroleum oils
Charles S. Palmer	1,187,380	June 13, 1916	Process of treating petroleum residues
R. E. Humphreys and F. M. Rogers and M. G. Paulus	1,553,861	Sept. 15, 1925	Art of forming low boiling point hydrocarbons
Carleton Ellis	1,318,061	Oct. 7, 1919	Process of making motor fuel
do	1,318,060	Oct. 7, 1919	Motor spirit
do	1,415,232	May 9, 1922	Process of cracking oils under pressure
Roy Cross	1,423,500	July 18, 1922	Process of treating petroleum oil
William A. Hall	1,175,909	Mar. 14, 1916	Process for conversion of heavy hydrocarbons into lighter hydrocarbons
do	1,242,795	Oct. 9, 1917	Process for production of motor spirit from heavy hydrocarbons
do	1,242,796	Oct. 9, 1917	Producing motor fuel
Joseph H. Adams	1,320,354	Oct. 28, 1919	Oil converting apparatus
do	1,320,726	Nov. 4, 1919	Process for conversion of liquids, fluids and oils
do	1,320,727	Nov. 4, 1919	Apparatus for conversion of liquids, fluids and oils
do	1,327,263	Jan. 6, 1920	Process for conversion of liquids, fluids and oils
do	1,433,519	Oct. 24, 1922	Process for conversion and transformation of liquids, fluids and oils

the four processes in which the Patent Club members are chiefly interested, that is the Burton, Holmes-Manley, Cross, and Tube and Tank. These are part of some 73 patents owned by the club. Concerning the 23, the master says:

"As to these 23 patents, the petitioner (the government) has introduced prior art for the purpose of impeaching their validity and scope."

The 23 challenged patents are upheld by the master who goes on to say:

"All of the other patents of the defendants not put in issue by the petitioner have the presumption of validity for the scope of the claims as set forth and also the presumption of utility arising out of the patent grant. There is nothing in the record which supports a contention that they are only 'minor improvements' or of little importance to the industry.

"And although not now admittedly used in the commercial processes of any of the defendants other than that of the patent owner, there is no ground to hold that they are not reasonably likely to be used in future developments of the art or that the defendants had any unlawful motives in procuring the grants of such patents or in granting or accepting licenses for the use thereof."

Although the master's report is not directed to the validity or otherwise of the patents, it is certain that he has swept away with a broad gesture most of the prior art that is relied upon in various infringement suits now in course of trial or likely to be brought.

OF course, the opinions expressed by the master would be in no way binding upon a judge in another court but it is certain that the report would be strongly played up by the defenders of the existing patents in any case which might get into court in future.

The point toward which the other side would doubtless aim its heaviest guns would be the fact that the master's judgment was formed on a very one-sided presentation of the case. The defendant's case was superlatively well handled by attorneys and expert witness while the government's attorneys were by no means in the same class with those of the defense and it required only one or two questions to demonstrate that the government's expert witness had no experience whatever in the actual operation of refineries, whatever his qualifications as a chemical engineer.

The one-sidedness of the case is indicated by the frank words of the master himself as follows:

"Without intending any disparagement of the learning of Dr. R. H. McKee, petitioner's expert witness, he seemed to be laboring under the mistaken impression that the novelty of chemical process patents and even mechanical patents may be negatived by showing that some but not all of the steps or elements of the process or mechanism are found scattered through the prior art; or by showing that all of the steps or elements separately but not conjointly and in correlation are found in the prior art. Also that the novelty of patented products, not clearly anticipated in the prior art, may be impeached by showing, not that they were, but that, with the knowledge of chemistry we now have, they might have been produced had they been wanted.

"At some points in his testimony in an effort to show want of novelty, his interpretation of the prior art disclosure was not only overstrained but quite beyond any reasonable construction of the description.

"On the other hand the special master was impressed with the candor, fairness and superior practical knowledge and experience of Mr. Wilson (Robert E. Wilson, Standard of Indiana) defendants' expert, in dealing with all of the prior art references. For this reason where there is irreconcilable conflict, the special master has adopted the testimony of Mr. Wilson as much more reasonable and accurate."

After taking up one after the other the patents of each of the members of the Patent Club, Standard of Indiana, The Texas Co., Gasoline Products Co. and Standard of New Jersey, and analyzing them and giving the essence of their meaning the master goes on to the consideration of the prior art.

In considering the prior art cited by the government, the master separates it into four classifications: Bulk pressure distillation; Tube cracking processes; Flash cracking processes and Miscellaneous prior art. The first of these discussed is the Young, British patent No. 3345, dated 1865.

As to the Young patent, Mr. Martindale quotes the government's petition as saying, "It is generally regarded as the first complete disclosure of this invention, i.e., the basic feature of present day processes, i.e., heat treating under super-atmospheric pressure. The master disagrees with this and thus dismisses Young's patent:

"The whole operation is a kerosene process. This must be so, for at that time there was no use for the gasoline and it was often allowed to run into the sea. Its production in the operation was to be minimized to the greatest possible degree.

"It will thus be seen that the material or stock known to Young and to which his treatment was to be applied is described with the utmost generality and is entirely too vague and indefinite to clearly disclose any inventions of the patents here in issue."

Dewar & Redwood, U. S. Patent No. 419,931, Jan. 21, 1890.

This is the celebrated Dewar & Redwood patent. Sir Boverton Redwood was at one time England's leading petroleum technologist. Dewar was a university professor. The master quotes the specification of the object of the invention as set forth in the patent:

"IN DISTILLING mineral oils—such as natural petroleum or similar oil made from coal, shale or other bituminous substances—in order to separate the lighter oils suitable for lamps and other purposes from the heavier oils, there is frequently a very large residue of heavy oil. Attempts have been made to obtain lighter oil from such residue or from heavy natural petroleums by causing the vapors generated in the still boiler to pass a heavily loaded valve so that the vaporization takes place under considerable pressure. It has also been proposed to arrange the still boiler with its upper part cooled. So that the most volatile portions of the vapor may become more or less condensed and fall back into the hot liquid below. This mode of operating being commonly termed 'cracking'. Both these methods are objectionable, the former on account of the irregularity of the distillation and the latter on account of the waste of heat in conducting the cracking process and the slowness and insufficient result.

"Our invention relates to a method of conducting the distillation by a suitable apparatus in such a manner that we get the benefit of regular vaporization and condensation under high pressure and that we may, at the same time, get such advantage as can be obtained from cracking. For this purpose we arrange a suitable boiler or retort and a condenser in free communication with one another, without interposing any valve between them; but we provide a regulated outlet for condensed liquid from the condenser. We charge and keep charged the space in the boiler, or retort, and condenser that is not occupied by liquid with gas under considerable pressure,

More Prior Art Wiped Out

Next week an article will take up other prior art patents that were disposed of by the special master in his report. These include the Barbet patents and patents issued to various others, among them Pielsticker, Schuchow and Garrilov, Lang, Laing, Kornfeld, Nikiforoff, Testelin and Renard, Kittle, Noad, Turner, Von Groeling and many others.

The work is too long to be covered in a single article. Next week also will be published a complete list of the patents that are cited in the report as being owned by the members of the Patent Club.

it may be with air or it may be with carbonic acid or other gas that cannot act chemically on the matter treated. The distillation and condensation being thus conducted under considerable pressure which can be regulated at will, we obtain from the heavy residue a quantity of more or less light oil suitable for illuminating and other purposes which cannot be obtained by distillation under atmospheric pressure. We may also arrange the still head or upper part of the boiler or retort so as to operate according to the cracking method above referred to, the cracking in this case taking place under high pressure, instead of being carried on under atmospheric pressure."

This disclosure is cited against Adams patents Nos. 1,320,354, No. 1,327,263, No. 1,433,519; against Burton's original No. 1,049,667; Burton and Clark's No. 1,448,254; Chamberlain, No. 1,221,790 (owned by Standard of New York); Clark No. 1,129,034 and No. 1,132,163; Hall No. 1,224,795 and No. 1,224,796; Humphreys (run back) No. 1,119,700 and Palmer No. 1,187,380. It was cited by the patent examiner as ground for rejecting all of Adams' claims and was held by the commissioner not to anticipate Adams, says the master's report.

The master thus disposes of Dewar and Redwood, one of the patents most frequently cited as bearing upon present day cracking patents:

"A fair examination and treatment of the Humphreys patent and this Dewar and Redwood still head must lead one to the belief that the latter has not the function or result of the former and that it does not operate in the same manner and most certainly not so efficiently.

"This disclosure does not mention the nature of the stock operated upon, except that it is the residue of heavier oil. It does not mention the temperature to which the material is subjected and it calls for only "considerable pressure" the quantity of which is not described. But it is evident from the object to be attained that it shall be only so much pressure and temperature as shall be sufficient to obtain additional illuminants from the residue treated.

"To convert this disclosure into a practical, economically available gasoline process would necessarily involve the exercise of the inventive faculty which robs the disclosure of any force as an anticipation of the patents referred to."

Oil Law Changes Made In Mexican Congress

(By Telegraph)

HOUSTON, Tex., Dec. 27.

DISPATCHES from Mexico City say the House of Deputies has passed the first reading of the bill from President Calles amending articles 14 and 15 of the Mexican oil regulations in accordance with the recent Supreme Court decision in the Mexican Petroleum Co. case.

That decision was reported in detail on Page 18 of the Nov. 23 issue of NATIONAL PETROLEUM NEWS. The decision held provisions of the regulations unconstitutional as applied to the specific case involved, but did not invalidate them for blanket purposes. The amendment to the law now before the Mexican congress would definitely remove the main objection by operating companies to the oil law because it would do away with requirements for confirmatory concessions for 50 years in exchange for rights acquired by the companies before the Carranza constitution of 1917.

President Calles proposes this amendment:

Article 14 that there shall be confirmed without expense by means of concessions, the following rights: those derived from lands on which oil exploitation works were commenced prior to May 1917; those derived from contracts made prior to May 1, 1917, by owners of the surface or persons under contract to them for the purpose of oil exploitation; to owners of pipe lines and refiners at present working under concessions or authorizations issued by the Department of Industry, Commerce and Labor, and in regard to those concessions or authorizations confirmation of these rights will be granted without limitation of time, when on behalf of surface owners and for the time mentioned in contracts reached by surface owners and other parties.

Article 15—The term of one year is fixed from the day following the publication of these reforms until the same day, inclusive, of the following year in which must be sought confirmation of the rights to which the foregoing article refers and which have not been the subject of confirmatory petitions within the period fixed in this article.

Regarding confirmation sought within the year 1926 and in respect thereof titles have not been issued and these shall be granted in accordance with present reforms. In the terms of the same shall be rectified confirmatory titles already issued.

Standard of Indiana Buys New Airplane

(By Telegraph)

CHICAGO, Dec. 28.—Standard Oil Co. of Indiana has purchased a second airplane to be used in company business. It will be known as the Stanolind Junior. It goes into service next spring. It is not a sister ship to the Stanolind which went into the company's service May 21. Stanolind Junior is a small open plane.

The new ship is a laird biplane of fabric construction built in Chicago, equipped with a Wright whirlwind motor. It will carry two passengers and a pilot. It will have a cruising speed of 120 miles per hour and a maximum speed of 138 miles. The chief advantage of the small plane over the Stanolind is that it can land in less space and thereby greatly increase the number of towns Standard officials may reach by air, for so many small cities do not have air ports to accommodate the Stanolind.

Standard officials are greatly pleased with the Stanolind's record. Since last May it has traveled 35,000 miles, carried 2,100 passengers, landed in 40 towns and circled many towns where landing was impossible. It has consumed 14,612 gallons of gasoline and 608 gallons of motor oil.

While devoted extensively to promoting landing fields and encouraging aviation, Stanolind has made 10 trips exclusively on business, exceeding 11,000 miles and the combined miles flown by directors is 37,265 miles.

Salesman Goes Into Business

KNOXVILLE, Tenn., Dec. 27.—A bulk station is being erected by the Volunteer State Oil Co., a new oil jobbing company organized by W. A. Fowler and A. W. Edington, long time residents of this section. Mr. Fowler has been for the past 20 years division manager for the Indian Refining Co., Lawrenceville, Ill., covering eastern Tennessee, western North Carolina, southern Virginia and most of Georgia.

The bulk station will be 40 by 80 feet and will have storage capacity of 65,000 to 80,000 gallons for gasoline and kerosene. It will be on the Southern Railway tracks. The plant is scheduled to be opened about Feb. 15. Four or five trucks will be placed in operation.

Besides gasoline and kerosene, motor oils and greases will also be handled. No connections for gasoline and kerosene have yet been established, according to Mr. Fowler, who may be reached at box 676. No filling stations will be operated by the company at present.

Factors in Repressuring Given In A. I. M. E. Meeting

Staff Special
TULSA, Dec. 24

ON CERTAIN sands in north Texas, where repressuring with air is under way, it has been found helpful to run gasoline into the intake wells before applying pressure. After the gasoline has been in the well for several days, the sand readily takes the air. On some of the properties, gas vapors from stock tanks are being compressed and introduced into the sands.

These points were brought out by R. Van A. Mills, of the U. S. Bureau of Mines, in his discussion of the paper by F. B. Hall, of the Tidal Oil Co., before the first winter meeting of 1927 of the American Institute of Mining & Metallurgical Engineers, Mid-Continent section.

In his address, Mr. Hall advised either owning the offsetting properties, or having a working agreement with the owners. He considered it essential that gas be the original expelling force that caused the oil to migrate into the wells. The amount of expelling force originally in the well and the efficiency with which this force has been utilized during the past history of the production will help materially in determining the success with which repressuring may be applied.

The present gas-oil ratio is important, he said, for should the ratio be unusually high, it might prove to be the result of an exposed gas sand, which would prove difficult to handle, or it might be a porous gas sand grading into a less porous oil sand, which would make it impossible to get results with pressure. Should the pressure be low, it might be the result of water encroachment, and the recovery of oil might not be increased either in rate or amount.

The ratio of oil and water should be considered, said Mr. Hall, for a large amount of water increases corrosion and emulsion troubles. The resistance of the sand to the admission of gas may be determined in advance by means of a portable compressor, and if pressures above 350 pounds are going to be required it is doubtful if repressuring will prove successful.

Selection of key wells, said Mr. Hall, are best handled on the elimination plan. Those wells having broken or shaley sand, or abnormally small sand bodies, are rejected, as are wells producing edge water, or water in large amounts. Wells with relatively small daily production, or with a low initial production are not desirable, as this is an indication of high resistance at the well. Wells in poor repair, that is wells with collapsed pipe in the hole, or having liners that cannot be pulled, are placed on the black list. However, wells properly located structurally, but which for some reason, cannot be tubed low enough to be pumped are considered desirable, as the sand has remained clean and would be productive if the fluid level were high enough. Wells that are on property lines that are offset, and wells on which there are no authentic records, are taboo, unless an agreement with the offsetting property owner can be reached, and it is mutually decided which wells are to be used for repressuring, and which are to remain producers, Mr. Hall brought out.

Sufficient data has not yet been gathered to definitely determine whether or not structural conditions at the well have some bearing on the spread of pressure. However, there is some evidence that the spread is up structure, and if this is the case, wells high on the structure are not favorably located for key wells.

Mr. Hall in discussing preparing a well for pressure said:

"It is considered good practice to test each proposed key well with pressure before definitely deciding upon its choice. When necessary to run a string of tubing for testing, a packer is set as near the top of the sand as possible. After the completion of the test, this packer is removed, and another permanent string of pipe run to carry the air or gas to the sand. This permanent string is 4-inch pipe, or any size large enough to make it possible to run a pumping string, and is cemented near the top of the sand. In some cases, the sand has a very low resistance, so that gas will be admitted at low pressures. In this case, it is possible that gas may be turned into the casing as it stands, providing that no sand is exposed having a lesser resistance than the oil bearing sand. Perhaps where fairly long pressure strings are necessary, a small amount of the larger pipe might be cemented, and by having a right and left threaded nipple, the rest of the string may be unscrewed from it, and a string of two-inch run on a packer to be set in the short string already cemented at the top of the sand. This would make possible pumping the well, should it prove troublesome as a key well. If it is necessary to drill a well for pressure, it should have a water string set, and the hole reduced near the top of the sand. After a moderate shot, the pressure string should be run, cemented, and filled to the top with mud.

"Wherever a well is drilled on a pressure property a core should be taken. Most operators prefer to shoot a well drilled for pressure, the same as when completing producing wells. Some operators prefer to run a string of tubing inside the pressure string in key wells, for the purpose of flowing any fluid out of the well which may have accumulated during a shut down at the compressor station, or, if for some other reason, the pressure at the well is relieved."

As a means of conserving the natural gas, the gas emitted from the producing wells should be recycled, if possible, said Mr. Hall. Properties having a return or vacuum system should be checked for capacity, as the return volume will be increased by approximately half the amount forced into the sand. Adequate drips should be installed to prevent plugging at some point, causing a back pressure on a group of wells, resulting in unsteady production.

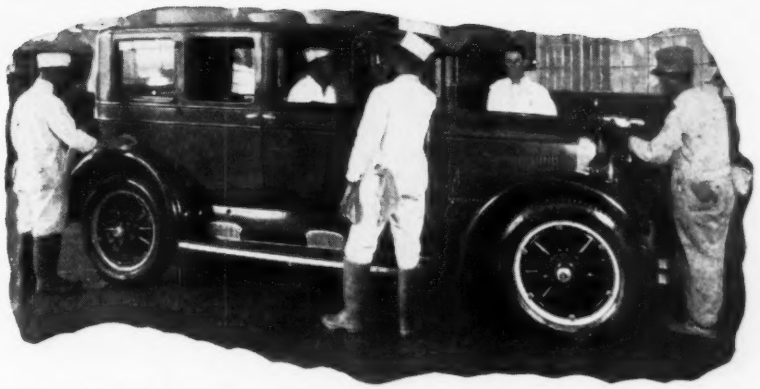
The operation of the plants as conducted by the Tidal Oil Co., whose experience in this line of work has been used as the basis of Mr. Hall's remarks, is not complicated. One man, who lives on or near the properties, looks after the plant. Another, called a tester, takes the volume readings on gas going into the key wells and returning from the producers. He also makes an analysis of the return gas, and tests the capacity of the compressors. This tester operates in a district, and may have several properties on which to report.

The investment in repressuring plants and operations has been about $500,000, with an increase of 600 barrels daily of production over what could be expected from the same properties by ordinary methods. As this is a cost of about $800 per barrel, it is felt that repressuring is paying its way as it goes.

J. R. McWilliams, of the Skelly Oil Co., who spoke on the profits yielded by using insulated tanks for treating oil, used as his initial experiment in this direction, a Skelly lease in 14-8, on which 15 wells were producing about 500 barrels each of oil and water from the Deutcher sand. By using absolutely tight tanks, insulated at a cost of about $250 per tank, the lease showed an additional profit of $35,000, due partly to the greater recovery from B. S. and partly to the increased gravity of the oil so recovered. Mr. McWilliams stressed the point that the emulsion should be brought into the treating tanks submerged, in order that it be agitated as little as possible. The total expenditure on treating apparatus sufficient to the needs of the lease described was about $7,500 so that the profits are readily discernible to the naked eye of the operator who has been wondering what to do about the falling gravity in his tanks of mixed oil, i.e., treated oil and the pipe line oil in the stock tanks.

Auto Laundries for the Gasoline Stations

What Middle West is Doing With This Service To Motorists



Chamoising the car, one of the final steps in a de luxe auto laundry. The nickel radiator is being polished with an electric buffer. The inspector is watching operations on the other side of the car. The laundry was operated by George Foss, in Montreal

Staff Special
CHICAGO, Dec. 23

WASHING automobiles may not be welcomed by oil men everywhere as a proper function for the service station but the public is gradually coming to expect it, at least in some sections. In Chicago where approximately half the filling stations are privately owned the automobile laundry was accepted readily as a service adjunct and trade stimulant where gallonage was so divided as to be unprofitable even on wide margins.

Retailers have not been by themselves in Chicago territory, in their willingness to fit the car washing business into the oil marketing business. A few oil jobbers in Illinois took up car washing some two years ago. Now it is not uncommon to find an oil jobber in the washing business. Moreover, it is being advocated by leaders among the Independents as a profitable and appropriate side line.

A great variety of new equipment is being offered oil men in Chicago and vicinity for washing automobiles. Not less than a dozen brands of automobile laundries are already well known in the local market. Most of them are new. They are so new, in fact, that the classified business directory of Chicago, issued annually, carries the names of only two.

Generally, all automobile laundry equipment can be divided into two classes: large machines and small machines. The small ones are designed to wash cars in small quarters. Most automobile laundries in Chicago are of this type and occupy little, if any, more space than an ordinary greasing pit. They are meant to be used as side lines for service stations and commercial garages.

The large laundries are not adapted to use as a side line. They require more space than the average filling station uses and, as a rule, they operate independently of any other business. Ordinarily they will wash a car in half the time required by the small plants. As a rule they are expected to do better work than the small laundries but if they do it is because the management maintains a higher standard of workmanship; not because the small ones will not do good work. The quality of the job depends mostly on what the operator requires of his workmen. The main differences in the two classes of laundries are the original cost, speed of operation, and space necessary for the instalation.

The large automobile laundry is making just as strong an appeal to the oil industry as the small one. A great many oil jobbers have not accepted the "super service station" as a policy of expansion. They don't want to build greasing and washing plants on the same lot with the filling stations they already have. They prefer, if they start washing cars, to build and operate a large, fast automobile laundry apart from their oil stations entirely.

A NOTABLE example of this type of development is the Pennsylvania Oil Co. of Madison, Wis. The company has some handsome service stations on expensive lots, beautifully landscaped and adapted to a fashionable capital and university city. When it went in for washing cars they invested nearly $4,000 in a Klean-Rite Auto Laundry system and set it up on a lot nearer the bulk station than any of the service stations. It is separately incorporated and operates as a distinct institution.

Among the large laundries, Klean-Rite is a well established and widely advertised competitor. It recently finished equipping a plant in Chicago that cost $500,000, thought to be the most elaborate thing of its kind east of California. It turns out a car a minute with ease and one car uses 10 minutes in passing from one end of the system to the other.

When a motorist drives in he halts his machine on a platform in front of an attendant. He gets out of his car, takes a check for it, and watches the workmen push it onto a slow moving conveyor. The customer then passes the cashier, pays his bill and walks leisurely down a handsome passage, watching his car all the time through plate glass windows. He sees every operation. When it is finished he is standing by, turns in his check, takes his car and drives away. This laundry is owned by a stock company.

Automobile laundries of this type are scarce but there are several large ones in Chicago. The Cunningham Co. operates two of them, using a system of their own, and there are two or three other kinds. Prices for large installations range upwards from $2,000 to $5,000. Prices include machinery and concrete work.

A 600 Million Dollar Market

AUTOMOBILE washing is another service that filling stations are offering the public. One car washing equipment manufacturer estimates that this field has a potential yearly revenue of $600,000,000 for service stations.

The old Sunday morning order of affairs is rapidly fading from the picture. No longer does Father put the car in the drive Sunday morning, wash and grease it and look after the battery in addition to making minor repairs. Greasing, battery watering and the repair jobs are done by professional workmen now. And so the car owner is getting a few dollars together to have his auto washed rather than do the job himself.

Ward K. Halbert, Chicago editorial representative of NATIONAL PETROLEUM NEWS, has made another survey of the automobile laundry business of Chicago and vicinity. The survey published herewith is of equipment, costs and auto laundry management today. The previous article, published in the issue of May 19, 1926, page 104, covers the extent of auto washing from the station standpoint of that day.

The customer must supply the lot and build the house by blue prints which the manufacturers of the equipment furnish.

COMPETITION is keen in the automobile laundry field among the manufacturers of small plants. Seven or eight makes are well known in Chicago now and oil men say they hear of a new one almost every week. Plants range in price from $250 to $750 a unit, but sell often in sets of two units to one customer. The great majority of buyers, however, purchase single units for what they call "one car stands".

With few exceptions the small washers are of the hydraulic type; that is, they consist of a pump driven by an electric motor. They are connected directly with the city water mains and boost the normal pressure up to about 300 pounds. The water is forced out through a hose with a nozzle.

The nozzles are adjusted easily to throw a driving stream or a soft spray. Several makes of nozzles are suitable for use on any of the several kinds of pump washers. The pumps have three intakes as a rule: one for cold water, one for warm water and one for soap solution. Several laundry operators in Chicago do not put anything through the pump except cold water.

One of the small washers longest in the field is the "U. S. Car Washer", made by the United States Air Compressor Co. A two-gun machine is put out for approximately $400, other types run up to $600.

Pump and motor are mounted together on a small stand. The pump takes water from the city mains and boosts the pressure up to 300 pounds.

Early 1926 out-door auto laundry. This out-door Chicago laundry represents the business reduced to its simplest form. Overhead is at a minimum in this type of auto wash, and in clear weather the auto can be rolled into the open for cleaning not done over the sump

Even operation of the machinery and smooth flow from the outlets is effected by an air chamber.

A warm water intake is provided so that the laundry operator may put it through his pump if he desires. The heater is separate, not included in the price. A third intake is arranged so the operator can put a hose into a barrel of soap solution and put the solution through at will.

Two or three of the intakes may be used at the same time to give the streams from the nozzle the right temperature and the right content of soap.

ANOTHER machine is the "Hardie", manufactured at Hudson, Mich. Besides one six-gun machine in the $1000 class the company puts out a special one-gun outfit for $245 that sets on an iron tripod.

The "Champion Car Washer" is made by the Champion Pneumatic Machinery Co. of Chicago. They have already been sold in considerable numbers here. The one-gun Champion is priced at $280 and the four-gun outfit at $510. The "Hayes Speedspra" manufactured at Galva, Ill., the "Manley", "Globe" and "Hobart" are all in about the same price range. They can be installed by anybody with enough mechanical experience to make an electric connection and fit a joint of pipe.

One small car washer made in Chicago is sold with engineering service to install it and a year's monthly inspection by a factory representative. It is the "Goulds Thoro-Kleen" made by Goulds Pumps Inc., Seneca Falls, N. Y. Only a few oil stations and garages in Chicago are using it, chiefly because the management has concentrated its sales effort on truck fleet operators.

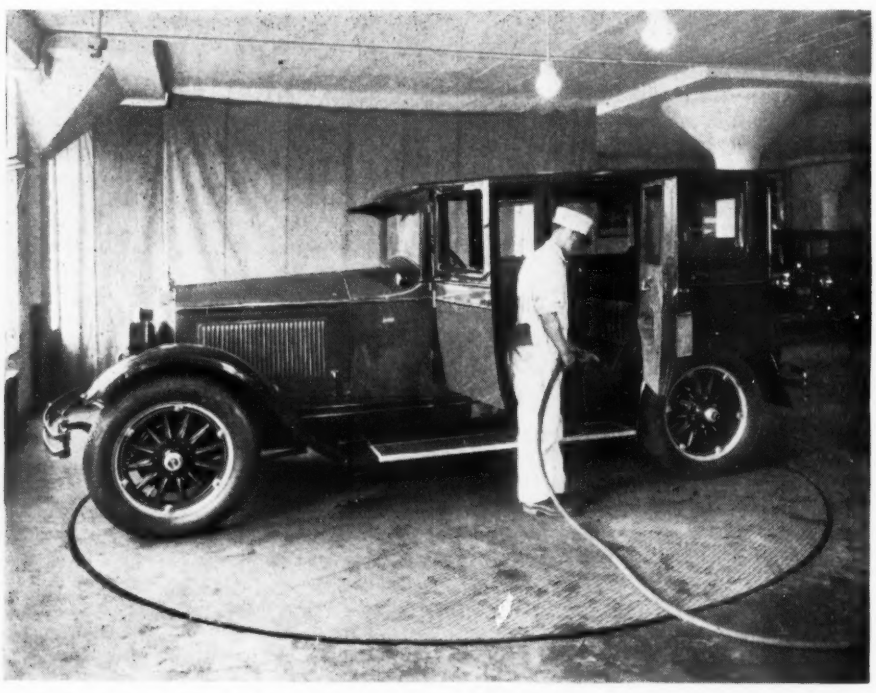
The Goulds has three air chambers of varying size, each performing a different function. The largest is the discharge air chamber, a 6-inch pipe, 4½ feet high. A two-gun Goulds can be bought as low as $540.

Prices given above may be increased in case the customer's electric power is direct current which requires a slightly more costly motor. In every type of equipment the price advances with the number of outlets the customer wants to use, but a four-gun machine does not cost nearly twice as much as a two-gun outfit.

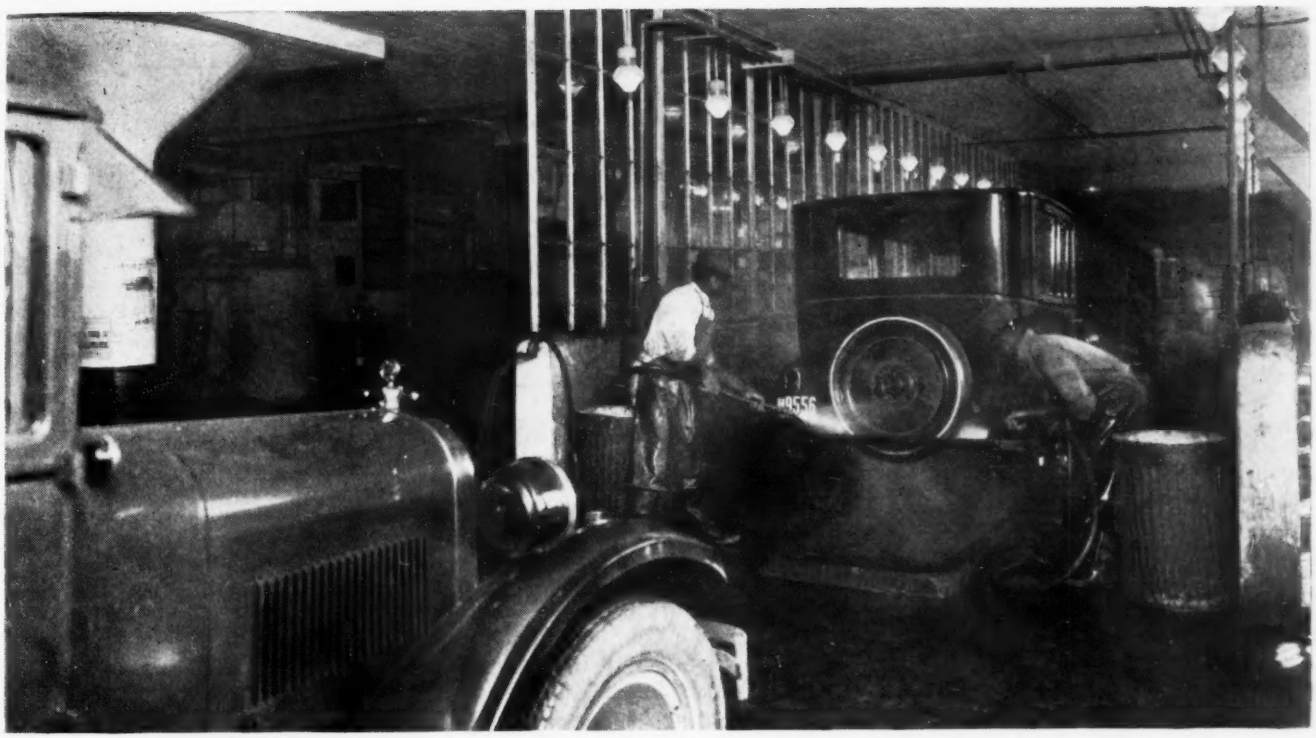
Most manufacturers recommend, to customers who expect to wash cars commercially, to buy a four-gun machine even if only two guns are used at first. The difference in price for the original installation is only $75 or $100 and the four-gun machine operates almost as economically with two guns as the two-gun outfit of the same make. On the other hand if the customer bought the small unit at first and it proved inadequate for his business it would entail an unnecessary expense to replace it. Buying a complete new outfit of the same kind to use in conjunction with the first one would exactly double the expense and might be impractical. To tear out the small unit and put in a larger would be still more expensive.

THERE are two sides to this question, however. Some oil station men in Chicago have arbitrarily bought two two-gun units instead of one of double capacity at the beginning. They argue that, when business is slack, they can run one 2 horsepower motor and a small pump cheaper than a 3 or 4 horsepower motor and a bigger pump. Moreover, they say, in case of a breakdown they have a machine in reserve to take care of the trade while repairs are being made.

Standards of cleanliness for automobiles are much higher now than they were a few years ago. As



Interiors of cars in a de luxe laundry are air cleaned. Pressure is 125 pounds. The turntable swings cars into the cleaning line. This is in the Montreal laundry operated by George Foss



Washing the chassis in George Foss' laundry in Montreal. Note the glass partition and the lighting system

expressed by a black boy in hip boots recently, "Folks is shore gittin' finikin about they automobiles". This is due probably to the increasing number of miles of paved roads. A fastidious motorist can keep his car clean with reasonable ease now, and the careless one has less excuse to have a dirty car.

One manufacturer of a car washing outfit, in their literature, estimate that the average motorist is willing to spend $30 a year to keep his car clean. That means that the annual potential car washing toll of the United States is close to 600 million dollars. The average car washing job costs the motorist $2.50 in Chicago and labor represents 85 per cent of the operator's cost.

Car washing prices vary somewhat with the class of job offered at different places, of course, but the greatest fluctuation in price is from one neighborhood to another. In well-to-do communities the residents pay $3.50 for a complete job on a big car that they could have done possibly for $2 in less prosperous sections of town. This shopping around is seldom done except by hired drivers.

It is still possible to get an automobile washed for $1 in towns near Chicago. In Grand Rapids, Mich., the Valley City Oil Co., near its low price railroad filling station, has an automobile laundry which consists of a square concrete floor with a sump in the middle. The roof over the concrete slab is supported by four posts. All four sides are open so it probably does little business in severe weather. Its overhead when idle is small, however. The management does not employ help by the day. It supplies an industrious colored man with buckets, brushes, sponges, rags and soap and permits him to wash cars for $1 each. He gets 75 cents and the company 25 cents out of each job.

This, of course, is an automobile laundry reduced to its lowest terms. But there are mechanical washers which offer very little more. A great many in Chicago use the pump for cold water only, using the driving stream to batter mud from wheels and chassis and the spray to soften dirt on the body so it can be removed with a sponge. Many washers of this kind can put out a good job. They have warm water in small quantities. They have soap solution in a barrel and dip it out in a bucket and apply it with care and economy and a brush. If the job does not require it they do not use it, saving time and soap on the easier jobs.

Even the larger washers admit that soap is not always necessary to a good washing job. Only when the chassis is badly stained with grease and road tar is it absolutely necessary. Where the laundry is small and the operator hopes to do from 10 to 35 cars a day, the business may not justify the expense of a hot water installation attached to the pump.

A comparatively cheap water heater (one like the average small residence uses in connection with the bath room in summer) is thought sufficient by many operators for a washing establishment when it is used sparingly with a brush and bucket. But no cheap heater is suitable to connect with the pump which throws 10 or 20 gallons a minute. Some engineers say that an operator should spend $225 to $275 for a coal heater to supply a satisfactory storage of hot water for a four-gun washer. A gas heater could be obtained, but the more expensive fuel is not necessary.

The chief consideration in selection of a car washer is ordinarily the probable number of customers the operator may get. Truck fleet owners usually have their cars washed in their own garage at night and do not permit their washer to do work for outsiders. They can figure exactly the number of men and type of equipment they want. But a

(*Continued on page* 45)

THREE illustrations accompanying this article showing various steps in a Klean-Rite system in a modern automobile laundry are from the complete service plant which was operated by George F. Foss, and his son Marshall M. Foss, of Automotive Industries, Ltd., at Montreal. An article written by Mr. George Foss describing his cleaning system and the complete plant was published in NATIONAL PETROLEUM NEWS issue of Aug. 18, 1926.

While operating the plant Mr. Foss said it was a complete success. Mr. Foss has given up his interest in this plant and has plans underway for several similar plants on a larger scale in various cities to be established in the near future.

A Simple Method for Volumetric Analysis Of Butane in Natural Gasoline

By Paul Ryan

Written Exclusively for National Petroleum News

AN EXECUTIVE of one of America's large meat-packing companies once boasted, "In our company, we use every part of the pig but the squeal". The petroleum industry can exceed the efficiency of the packing industry by making effective and profitable use of all its products and by-products—even of the present day squealing.

Lately, in the natural gasoline industry, there have been some attempts to convert to profitable use those by-products which have always caused losses. The lowest members of the series of paraffin hydrocarbons—methane, ethane, propane and butane—being gases at ordinary temperatures and pressures, have been among the chief causes of losses in the manufacture of natural gasoline.

Methane and ethane particularly cause difficulty in the handling of the natural gas from the wells to the natural gasoline plants; at the plants, the ordinary processes of selective absorption used in the manufacture of natural gasoline reject the methane and ethane from the natural gasoline and so pipe them away as the residue gas. Propane and butane, however, remain in the final product as part of the finished natural gasoline.

The presence of the propane and the butane in the natural gasoline increases plant losses, loading losses, and outages in transit. These losses mean that a manufacturer is following the unprofitable procedure of making gallons of natural gasoline and then blowing them into the air. Stabilization of the natural gasoline, by means of rectifying columns, tends to eliminate the propane from the natural gasoline and reduce the volume of butane to a comparatively harmless amount.

SOME recent attempts have been made by the bigger companies in the natural gasoline industry to find a profitable market for these by-products—propane and butane. There is a huge potential market for them, if the companies in the natural gasoline industry will only grasp it, but that topic is beyond the province of this article.

One of the constant difficulties to a consideration of the use of butane from natural gasoline has been the lack of a simple and adequate test to determine the percentage of butane in natural gasoline. A test has been devised by the author of this article, working in collaboration with C. C. Anderson, chief chemist of the helium plant of the Bureau of Mines at Fort Worth, Texas. It is a modification of the original method devised by Messrs. Shepherd and Porter of the Bureau of Mines. The latter test is published in the Journal of Industrial and Engineering Chemistry, Volume 15, No. 11, pages 1143-1146.

The test is based upon the principle of distillation of the natural gasoline at low temperatures and low pressures.

"Temperatures are chosen at which the more volatile component present in each case possesses a relatively high vapor pressure, and the less volatile components negligible vapor pressures. Since these distillation temperatures are maintained fairly constant for the removal of each component, the fractionation is effected by varying the pressure rather than the temperature. Very low pressures are employed which involve corresponding low temperatures.

TWO decided advantages accrue from these conditions. The first, and by far the most important, is that the ratio of the vapor pressure of the volatile component to that of the less volatile components becomes very much greater at the lower temperatures, and so the separation is distinctly sharper. The second lies in the fact that the actual amount of the vapor phase over the liquid phase is quite small at the low pressures, and consequently a negligible amount of the vapor phase remains above the liquid at the completion of each distillation,—an important consideration where small amounts of gas are used."—[1]

—[1] Shepherd and Porter—Jour. of Ind. & Eng. Chem. Vol. 15, No. 11, p. 1143.

Apparatus Costs $80

In the accompanying article, the author describes a simplified method of determining the percentage of butane in natural gas. He lists the equipment needed for making the apparatus necessary, the cost of which is less than $80. He describes how the test is carried on and gives the formula for finally reducing the results to percentage of butane.

The testing method which is based upon the method suggested by Shepherd and Porter of the Bureau of Mines, the author says is cheap, accurate and rapid. The errors are of the order of magnitude of 0.1 per cent and an entire experiment can easily be completed in an hour. Mr. Ryan was formerly assistant sales manager of Chestnut & Smith Corp., Tulsa and later technologist with the Warren Petroleum Co.

VARIATION WITH TEMPERATURE OF VAPOR PRESSURES OF HYDROCARBONS

Temperature Below Zero—°C.	Vapor Pressures— CH_4	C_2H_6	C_3H_8	C_4H_{10}	C_5H_{12}
210	1.0	.002	.000	.....	.....
200	5.5	.01	.002	.....	.....
190	20.0	.05	.007	.001(c)	.....
183	73.0	.125	.02	.001(c)	.....
180	118.9	.18	.027	.002	.....
170	353.2	.7	.09	.007	.001(c)
160	.....	2.0	.24	.02	.002
150	.....	6.0	.65	.06	.005
140	.....	10.0	1.5	.15	.015
130	.....	38.0	3.5	.35	.038
120	.....	85.0	7.5	.8	.095
110	.....	.....	15.5	1.7	.20
100	.....	.....	30.0	3.4	.45
90	.....	.....	60.0	6.0	.95
80	.....	.....	.....	12.0	1.8

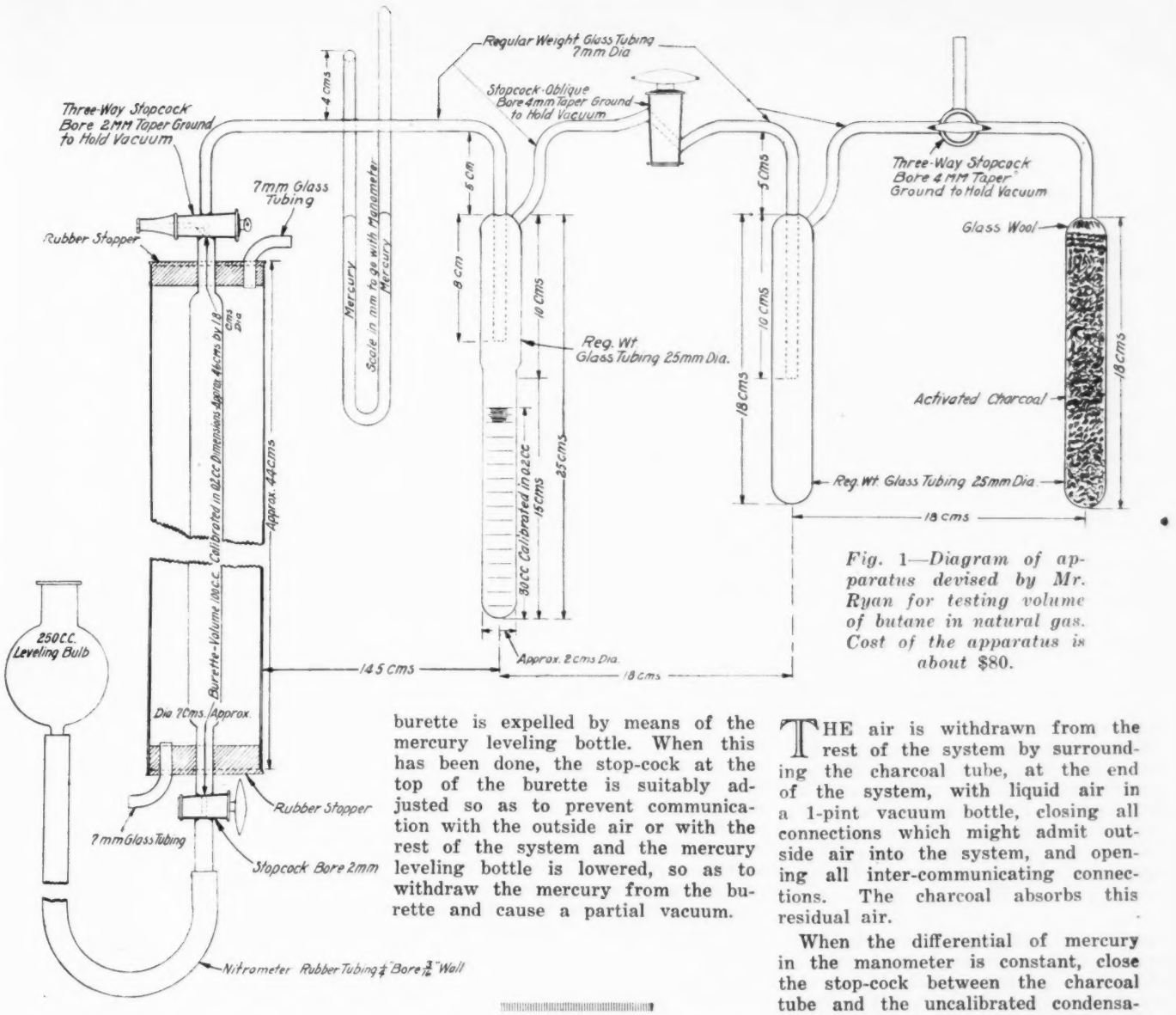

Regular Weight Glass Tubing 7mm Dia
Stopcock-Oblique Bore 4mm Taper Ground to Hold Vacuum
Three-Way Stopcock Bore 2 MM Taper Ground to Hold Vacuum
7mm Glass Tubing
Rubber Stopper
4 Cms
Mercury
Scale in mm to go with Manometer Mercury
5 Cm
8 Cm
10 Cms
Reg. Wt Glass Tubing 25mm Dia.
30 CC Calibrated in 0.2 CC
15 Cms
25 Cms
Approx. 44 Cms
Calibrated in 82 CC Dimensions Approx 46 Cms By 18 Cms Dia
Burette-Volume 100 C.C.
250 CC. Leveling Bulb
Dia 7 Cms. Approx.
14.5 Cms
Approx. 2 Cms Dia.
18 Cms
Rubber Stopper
7 mm Glass Tubing
Stopcock Bore 2mm
Nitrometer Rubber Tubing 1/4" Bore 3/16" Wall
Three-Way Stopcock Bore 4 MM Taper Ground to Hold Vacuum
5 Cms
18 Cms
Glass Wool
Activated Charcoal
Reg. Wt Glass Tubing 25mm Dia.
18 Cms

Fig. 1—Diagram of apparatus devised by Mr. Ryan for testing volume of butane in natural gas. Cost of the apparatus is about $80.

The data which form the basis of this proposed method of operation are shown in Table 1. They are reprinted from an article by Dr. R. P. Anderson, in the Journal of Industrial and Engineering Chemistry,

This table shows that at a temperature of 90 degrees below zero Cent. the vapor pressure of butane (C_4H_{10}) is 6.0 millimeters, while the vapor pressure of pentane (C_5H_{12}), the next heavier hydrocarbon is only 0.95 millimeter. This difference in pressure is used as the basis for the separation.

A drawing of the apparatus with complete dimensions is shown in Figure 1. Incidentally the dimensions shown on the drawing are approximate figures; only the calibrations for the burette and the calibrated condensation tube need to be exact. This will cheapen the cost of assembly, by allowing the glass-blower some tolerance in his work.

There follows the method of procedure. All air must be expelled from the apparatus. The air in the burette is expelled by means of the mercury leveling bottle. When this has been done, the stop-cock at the top of the burette is suitably adjusted so as to prevent communication with the outside air or with the rest of the system and the mercury leveling bottle is lowered, so as to withdraw the mercury from the burette and cause a partial vacuum.

THE necessary apparatus with the approximate cost of each part is listed below:

Burette	$10.00
Calibrated condensation tube..	5.00
Condensation tube	3.00
Charcoal tube	3.00
Stop-cock	1.30
Three-way stop-cock	2.50
Manometer	3.00
Support for apparatus	12.00
Leveling bulb	1.20
Nitrometer tubing—3 feet	1.95
Mercury—5 pounds	7.50
Pentane thermometer—minus 200 degrees Cent. to plus 50 degrees Cent.	10.00
Copper tube—14 inches by 1 inch diameter	1.00
Vacuum bottles—4 of 1 pint size—"Icy-Hot No. 245"	6.00
Holders—2—for Icy-Hot Filler No. 245	3.40
Vacuum bottles—2 of 1 quart size—"Icy-Hot No. 745"	4.00
Holder—1 for Icy-Hot filler No. 745	1.95
Total	$76.80

THE air is withdrawn from the rest of the system by surrounding the charcoal tube, at the end of the system, with liquid air in a 1-pint vacuum bottle, closing all connections which might admit outside air into the system, and opening all inter-communicating connections. The charcoal absorbs this residual air.

When the differential of mercury in the manometer is constant, close the stop-cock between the charcoal tube and the uncalibrated condensation tube. Surround the uncalibrated condensation tube with liquid air in a 1-pint vacuum bottle, thus bringing the temperature of this tube to the temperature of the liquid air, approximately 200 degrees below zero Cent. The stop-cock between the two condensation tubes should now be closed.

Into a 1-quart vacuum bottle, pour about 200 cubic centimeters of natural gasoline from an old sample. (This is used merely for purposes of cooling; it has no connection with the sample to be run.) Insert the closed end of the copper tube into the natural gasoline and stir gently as liquid air is put into the inside of the copper tube. As the gasoline is cooled, the liquid air evaporates; more liquid air must be put into the tube until the natural gasoline reaches a temperature of approximately 90 to 100 degrees below zero Cent. Incidentally, at this temperature, the natural gasoline has turned to a thick jelly; it closely resembles vaseline in color and viscosity. The vacuum bottle, con-

taining the cold gasoline is then used to surround the calibrated condensation tube. The apparatus is now ready for the test.

The tightly-stoppered bottle, containing the sample of natural gasoline to be tested for its butane content, is brought forth from its ice-bath, where it has been cooled to a temperature of 30 to 40 degrees Fahr. The stopper is removed and a two-hole stopper, with suitable glass tubing and rubber tubing and pinch-cock, is inserted and the bottle is inverted. Compressed air is applied to drive the sample from the bottle through the three-way stop-cock into the water-cooled burette.

When an amount varying from 30 to 50 cubic centimeters of the sample is in the burette, the stop-cock is closed, the pinch-cock on the rubber tubing is closed, the bottle is obverted, the two-hole stopper is removed, the sample is re-stoppered, and the compressed air is shut off. A reading is now made of the exact amount of the sample in the burette. Now, the sample is in the system ready for analysis.

The stop-cock at the top of the burette should now be turned so as to allow some of the sample to be drawn from the burette over into the calibrated condensation tube. About 50 per cent of the sample should thus be withdrawn; the stop-cock should then be tightly closed and the exact amount of the sample withdrawn should be determined by the readings from the burette.

When the differential of mercury in the manometer has reached a constant maximum, open the stop-cock between the calibrated condensation tube and the uncalibrated condensation tube. The difference in temperatures and pressures allow the butane to pass into the cooler uncalibrated condensation tube.

When the differential of mercury in the manometer has become a constant zero, close the stop-cock between the two condensation tubes and remove the vacuum bottle from around the calibrated condensation tube, allowing the sample slowly to warm to the temperature of the original sample in the burette. This can be done by surrounding the tube with a water-bath.

Read the volume of the sample in the calibrated condensation tube. Remove both other vacuum bottles from the tubes which they are cooling. Allow the system to warm again to room temperature, and expel all vapors from the condensation and charcoal tubes. The apparatus, after removing the original sample of natural gasoline from the burette, is now ready for the next experiment.

The difference between the volume in the calibrated condensation tube and the volume which left the burette, is the volume of butane in the original sample. The volume of butane divided by the volume of the original sample gives the percentage of butane in the natural gasoline.

In other words, assume that 30 cubic centimeters of the original sample had been put into the burette and 15 cubic centimeters had been withdrawn to the calibrated condensation tube, and that 9 cubic centimeters remained in this latter tube.

$$15 \text{ cc.} - 9 \text{ cc.} = 6 \text{ cc.},$$

which left the calibrated condensation tube as butane.

$$6 \text{ cc.} \div 30 \text{ cc.} \times 100\% = 20\% \text{ butane}$$

in the original sample.

In this test several factors must be mentioned.

1. This test has been devised for analyzing stabilized natural gasoline. Rarely does well-stabilized natural gasoline contain more than a trace of propane, so that the results obtained by this method are indicative of the percentage of butane present in the natural gasoline.

2. It is sufficient to allow 50 per cent of the original sample in the burette to pass over to the calibrated condensation tube. Among natural gasoline samples from about 100 plants, it was most rare to find a butane content in excess of 35 to 40 per cent.

3. The readings are made from the burette and from the warmed calibrated condensation tube. At the time of reading, each is surrounded by a water-bath at the temperature of the tap-water. This insures constancy of temperature, and eliminates volume corrections, due to differences in temperatures if any other procedure was followed. This method also saves time, by requiring the calibrated condensation tube to be read only after the butane has passed into the uncalibrated condensation tube, and the calibrated condensation tube has been warmed to the temperature of the tap-water.

4. Greater accuracy can be obtained, by repeating the step whereby the butane passes from the calibrated condensation tube to the uncalibrated condensation tube. It can be done in this way: when the differential of mercury in the manometer is a constant zero, showing that apparently all the butane has passed into the cooler uncalibrated condensation tube, close the stop-cock between the two condensation tubes, remove the vacuum bottle surrounding the calibrated condensation tube, and allow the sample in the calibrated condensation tube to warm to room-temperature. This will, of course, cause the mercury to show a differential. Replace the vacuum tube (it will be necessary, doubtless, to re-cool the gasoline in the vacuum tube, to the temperature of 90 to 100 degrees below zero Cent. by the addition of more liquid air in the copper tube) and cool the sample in the calibrated condensation tube. When the differential of mercury is constant, open again the stop-cock between the two condensation tubes, and continue the experiment.

5. The temperature of the water-baths should be kept below 60 degrees Fahr. to reduce to a minimum the tendency to evaporate by any fractions heavier than butane.

6. The test is dependent upon the availability of liquid air. Because of the widespread demand for oxygen and its products, and the excellent distribution system maintained for them, it is now possible to obtain liquid air in almost any fair-sized city. So this should present no difficulty.

7. Liquid air should be handled only by those who are familiar with the common-sense rules applying to the careful handling of volatile liquids in a chemical laboratory.

8. This test is accurate, cheap, and rapid. In the test of Messrs. Shepherd and Porter (referred to above) and on which this suggested test is based, the errors are of the magnitude of 0.1 per cent; the entire apparatus (exclusive of labor of glass-blowing) costs $76.80, approximately; and the liquid air costs about 50 cents per experiment; and an entire experiment can easily be completed in an hour.

This test represents the answer to the demand for a simple, adequate and rapid test which would yield the necessary information relative to the percentage of butane in natural gasoline.

Son of Union Oil Founder Dies in California

LOS ANGELES, Dec. 23.—Alfred C. Stewart, son of the founder of the Union City Oil Co., died at his home in South Pasadena, Dec. 19. Death was due to pneumonia which attacked him five days before the end.

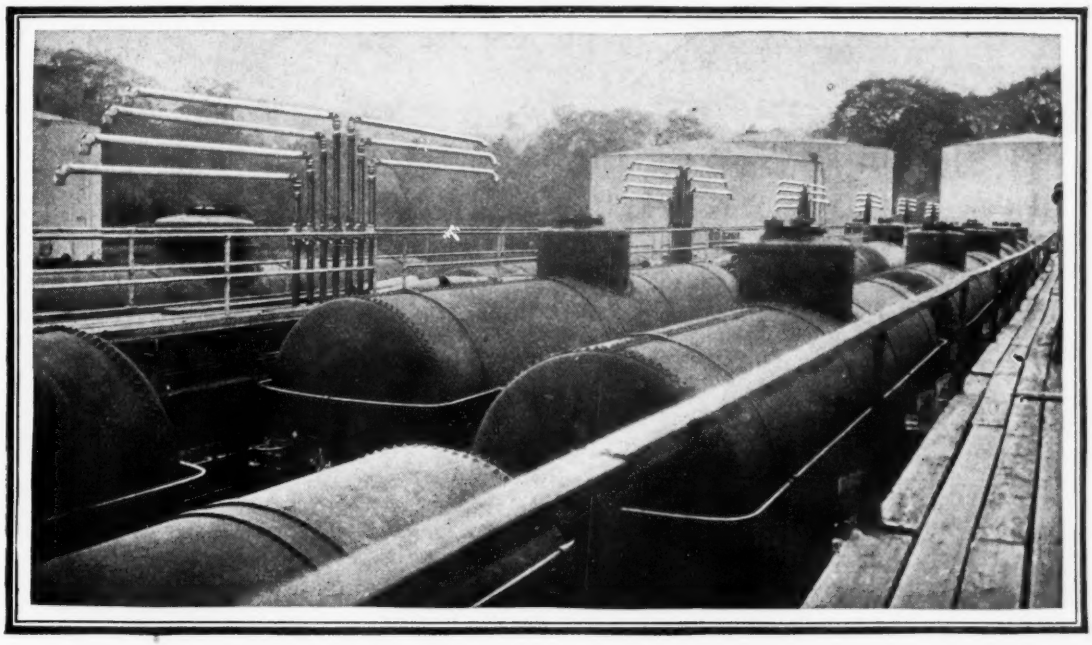
Mr. Stewart, who was 53 years of age, was the younger son of the late Lyman Stewart. He came to California in 1883, the year his father began the founding of the Union Oil Co. His brother, W. L. Stewart, is president of this company.

Besides the brother, Mr. Stewart leaves his widow, a sister, Mrs. D. H. Martin of Pasadena, and two sons, Clement Harding and Richard Irwin Stewart.

Mr. Stewart was an inventor, contributed much to automotive science, his best known inventions being the Stewart carburetor. Until 15 years ago he maintained a racing car factory here.

Shut Down Skimming Plant

HOUSTON, Dec. 22.—Freeport Asphalt Co. which operates a 10,000-barrel skimming and asphalt manufacturing plant at Bryan Mound, is to shut down temporarily after Jan. 1, until market improvement is shown. The shut-down, according to R. W. Stone of Houston, sales manager, will be the first in nine years.



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Iraq and Sumatra Foreign Oil Areas That Hold Big Reserves

By Paul Wagner

N. P. N. STAFF WRITER

HOUSTON, Dec. 22

DEVELOPERS of American crude oil reserves, already faced with a surplus of production in 1928, cannot afford to overlook the effect of other sources of raw material supply that are bound to exert their influence on the world markets in the coming year.

The closest at home of these sources, and the one most apparent to the average American producer, is the Lake Maracaibo region of Venezuela, which is expected to thrust nearly 100,000,000 barrels of crude into the world markets in 1928.

It is not there alone, however, that the sword of Damocles has been suspended figuratively over the head of the American petroleum industry. The Near-East region and the Island of Sumatra are, at least indirectly, areas that must be necessarily given future consideration.

The recent completion of a 50,000-barrel discovery well in Iraq, the traditional Garden of Eden, indicates the petroleum possibilities of a little known region; and to some extent the proving of deeper pay reserves in the Palambang area of Sumatra by the Royal Dutch-Shell interests figures disquietingly.

If one is to judge by the policy of the Royal Dutch-Shell in shipping California crude to the Dutch East Indies for refinery use in 1923, when it saw fit to keep Sarawak reserves intact in the ground, the Palambang area constitutes no immediate threat resulting from exploitation.

Iraq's influence on the world markets next year will probably depend on the necessity for meeting competition of crude and products originating in Soviet Russia and marketed under the trade pact in which the Vacuum Oil Co. and the Standard Oil Co. of New York figure.

The Kirkuk concession in Iraq is controlled by interests competing with the S.V.S triumvirate and the magnitude of the discovery is such as to permit market retaliation should conditions reach the stage of a bitter trade war. Whether such a situation will result is less clear, depending on many unmeasurable conditions.

Turkish Petroleum Co., which controls the Kirkuk concession, is composed of Royal Dutch-Shell, English, French and American groups, each with about 23 per cent, and C. S. Gulbenkian, Iraq financier, with 5 per cent. The American group includes the Standard Oil Co. of New Jersey, The Texas Co., and others, generally considered opposed to commercial traffic with Soviet Russia.

It was under terms of the main group's convention with the kingdom of Iraq that the Turkish Petroleum Co.'s Kirkuk discovery well was drilled on a well developed surface structure along the foothills belt of folding found in the region known as the cradle of civilization, between the Tigris and Euphrates rivers.

WHILE the distance of this particular discovery to seacoast and refineries (about 600 miles) is important for consideration in attempting a measure of its commercial effect the proving of the Kirkuk region has a more far-reaching significance. It opens to prospecting and possible production a tremendous stretch of territory. This extends from western India past, and including, the old Anglo-Persian development south of the new Iraq find, thence along the foothills of the interior mountain ranges, across the Caspian region and probably finding its western limits in the Roumanian part of the Balkans. Nor is this a narrow belt of possibilities, since its southern limits conceivably may lie in the vicinity of the Red sea in northern Egypt.

The Kirkuk and Anglo-Persian production comes from typical gulf basin formations, extending along the heretofore measured stretch of area, in point of geological age and structural conditions favorable to the accumulation of petroleum. It must not be taken from the foregoing, however, that the determination of the region's full possibilities will be a simple problem. This whole sweep of territory, more particularly the eastern part thereof, has been very little explored and from a geological standpoint it remains almost totally unworked as regards detail.

The producing horizon in the Turkish Petroleum Co.'s Kirkuk discovery and in the previously developed Anglo-Persian wells to the southward is of Oligocene (middle Tertiary) age, but subsequent to its deposition the whole region under consideration was subjected to severe and complicated folding and faulting of the type associated with great mountain building stresses and their accompanying structural forms.

A result has been the forming of a series of basins and inter-mountain valleys, separated and bounded by mountain ranges, uplifted in late Tertiary times, throughout the entire stretch of territory.

The character of the producing horizon and its associated beds is comparable, and in some cases almost identical, with other salt basin producing areas in different parts of the globe.

If one is justified in hypothesis it is not unfair to compare our own west Texas salt basin producing territory with what conceivably may be found later in one or more of the Near-East areas.

In Asia, as in west Texas, the deposition of dolomites, anhydrites, gypsums and later salts has proceeded in much the same manner by successive and repeated periods of inundation and recession of saline waters; and the production thereby of concentrates of varying degrees of salinity.

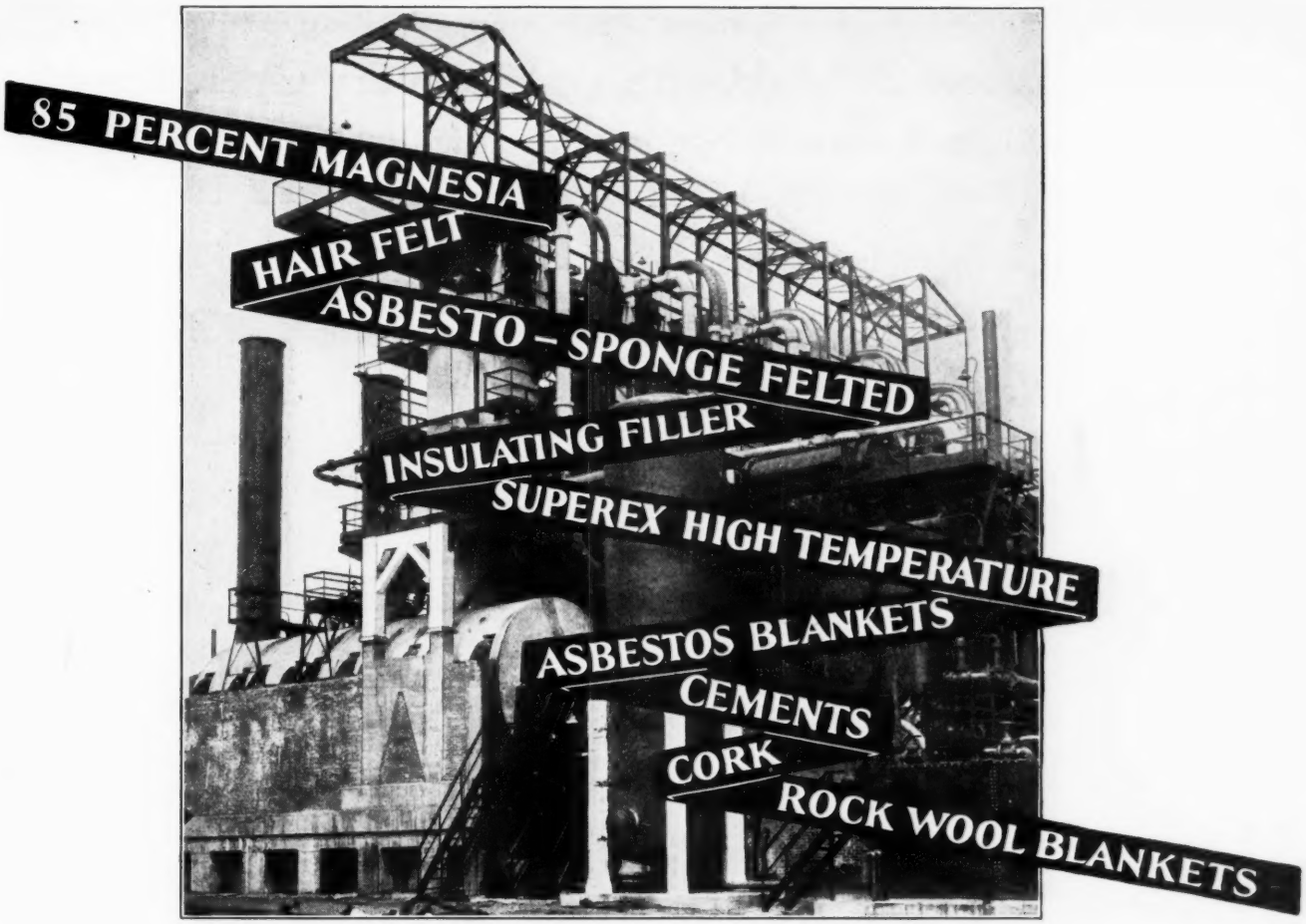
The chief difference between the two general regions, aside from that of their relative extent, is that of age. The west Texas salt basin deposits are of Permian age, while those of the Near-East, as heretofore stated, belong to the middle Tertiary period. There is a further difference in that the structural deformation of the Asiatic region is much more pronounced than is that of the west Texas territory.

Oil and gas produced in both localities have similar characteristics and quality, containing high percentages of hydrogen sulfide.

THE various phases of the situation mentioned bring up the question of the influence of the Kirkuk discovery and the future of the world petroleum industry, especially as applied to the American outlook from now on.

With estimates for 1928 pointing to a 10 per cent decline in exports from the United States, due to increased supplies of cheaper foreign oil originating in Russia and Venezuela, it is quite possible that the American petroleum industry is face to face with accommodating its future production policy more and more to the

(*Continued to page* 37)



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Compilation Of Mid-Continent Refinery Operations

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Mid-Continent Refinery Operations Week Ended December 23 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	North La.-Ark.	Total Week Ended Dec. 23	Total Week Ended Nov. 25
Plants Reporting	12	28	27	12	79	79
Crude Capacity (bbls.)	92,000	157,200	104,500	54,900	408,600	408,600
Cracking Capacity	30,700	52,600	16,200	22,700	122,200	122,200
Da. Av. Crude Runs	50,626 + 2.8	99,260 — 2.7	65,328 — 7.4	43,315 + 5.1	258,529 — 1.7	261,305
Da. Av. Other Oils	6,261 + 49.7	2,039 — 7.7	7,632 + 63.7	695 — 49.2	16,627 + 33.9	11,837
GASOLINE—Gallons						
Stocks, Dec. 16	10,981,000	38,669,000	18,665,000	3,434,000	71,749,000	63,423,000
Prod. 12-16 to 12-23	7,632,000 + 5.6	15,075,000 — 4.7	7,351,000 — 4.5	3,281,000 — 2.2	33,339,000 — 2.2	34,730,000
Ship. 12-16 to 12-23	7,132,000 — 0.8	11,591,000 — 13.0	6,443,000 — 6.0	1,990,000 — 8.1	28,156,000 — 8.1	31,452,000
Stocks, Dec. 23	11,481,000 + 4.6	42,153,000 + 9.0	19,573,000 + 4.9	3,725,000 + 8.5	76,932,000 + 7.2	66,701,000
Ratio Sales to Prod.	93.4%	76.9%	87.6%	91.1%	84.5%	90.6%
KEROSENE—Gallons						
Stocks, Dec. 16	4,305,000	7,346,000	2,039,000	682,000	14,372,000	12,772,000
Prod. 12-16 to 12-23	1,563,000 + 21.9	3,714,000 + 0.3	1,548,000 — 3.6	648,000 — 2.4	6,473,000 + 5.3	6,549,000
Ship. 12-16 to 12-23	1,791,000 + 10.6	2,865,000 + 17.1	1,725,000 + 13.0	723,000 + 10.4	7,104,000 + 13.7	4,988,000
Stock, Dec. 23	4,077,000 — 5.3	7,195,000 — 2.1	1,862,000 — 8.7	607,000 — 11.0	13,741,000 — 4.4	14,333,000
Ratio Sales to Prod.	114.6%	105.6%	111.4%	111.6%	109.7%	76.2%
STOVE DISTILLATE—Gallons						
Stocks, Dec. 16	3,600,000	5,662,000	1,613,000	55,000	10,930,000	13,959,000
Prod. 12-16 to 12-23	340,000 +126.7	619,000 — 30.4	225,000 — 14.1	6,000 — 76.0	1,190,000 — 10.3	1,276,000
Ship. 12-16 to 12-23	680,000 — 10.6	1,005,000 + 8.2	769,000 + 81.4	4,000 — 63.6	2,458,000 + 15.7	1,471,000
Stocks, Dec. 23	3,260,000 — 9.4	5,276,000 — 6.8	1,069,000 — 33.7	57,000 + 3.6	9,662,000 — 11.6	13,764,000
Ratio Sales to Prod.	200.0%	162.4%	341.8%	66.7%	206.6%	115.3%
GAS OIL—Gallons						
Stocks, Dec. 16	7,991,000	40,421,000	14,001,000	7,379,000	69,792,000	77,915,000
Prod. 12-16 to 12-23	1,365,000 + 10.8	1,631,000 + 1.5	1,046,000 + 25.0	2,206,000 + 30.1	6,248,000 + 16.3	5,548,000
Ship. 12-16 to 12-23	1,559,000 + 0.6	2,459,000 + 7.2	1,475,000 — 38.8	2,423,000 + 8.5	7,916,000 — 6.7	6,375,000
Stocks, Dec. 23	7,797,000 — 2.4	39,593,000 — 2.0	13,572,000 — 3.1	7,162,000 — 2.9	68,124,000 — 2.4	77,088,000
Ratio Sales to Prod.	114.2%	150.8%	141.0%	109.8%	126.7%	114.9%
FUEL OIL—Gallons						
Stocks, Dec. 16	15,316,000	39,746,000	39,541,000	9,551,000	104,154,000	102,447,000
Prod. 12-16, to 12-23	5,613,000 + 5.9	6,851,000 + 0.7	8,965,000 — 6.8	6,337,000 + 4.6	27,766,000 — 0.1	27,594,000
Ship. 12-16 to 12-23	6,533,000 + 8.3	9,902,000 + 25.5	9,624,000 + 16.6	6,486,000 + 10.1	32,545,000 + 15.9	24,203,000
Stocks, Dec. 23	14,396,000 — 6.0	36,695,000 — 7.7	38,882,000 — 1.7	9,402,000 — 1.6	99,375,000 — 4.6	105,838,000
Ratio Sales to Prod.	116.4%	144.5%	107.4%	102.4%	117.2%	87.7%

Gasoline Produced by Various Methods, Week Ended December 23

	Kansas	% of Total	Oklahoma	% of Total	Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	5,046,000	66.1	11,136,000	73.9	5,854,000	79.6	1,584,000	48.3	23,620,000	70.8
Cracked	2,068,000	27.1	2,938,000	19.5	1,173,000	16.0	1,181,000	36.0	7,360,000	22.1
Natural	518,000	6.8	1,001,000	6.6	324,000	4.4	516,000	15.7	2,359,000	7.1
Total	7,632,000		15,075,000		7,351,000		3,281,000		33,339,000	

+ or — columns are % change over previous week.

Stocks of All Oils Except Gasoline Lowered

Staff Special—By Telegraph
TULSA, Dec. 27

FOR the second consecutive week stocks of all major commodities except gasolines were reduced in the week end Dec. 23 at the Mid-Continent refineries that report weekly operations to NATIONAL PETROLEUM NEWS. These refineries have approximately 60 per cent of the district's operating capacity.

Stove distillate continued to show the greatest ratio of sales to production and gas oil was second. Continued cold weather through much of the consuming territory has been responsible for the draft on stocks of these two commodities as well as on kerosenes and fuel oil.

In the four weeks ended Dec. 23 distillate shipments have outstripped production by 2,834,000 gallons. Production totaled 4,495,000 gallons and

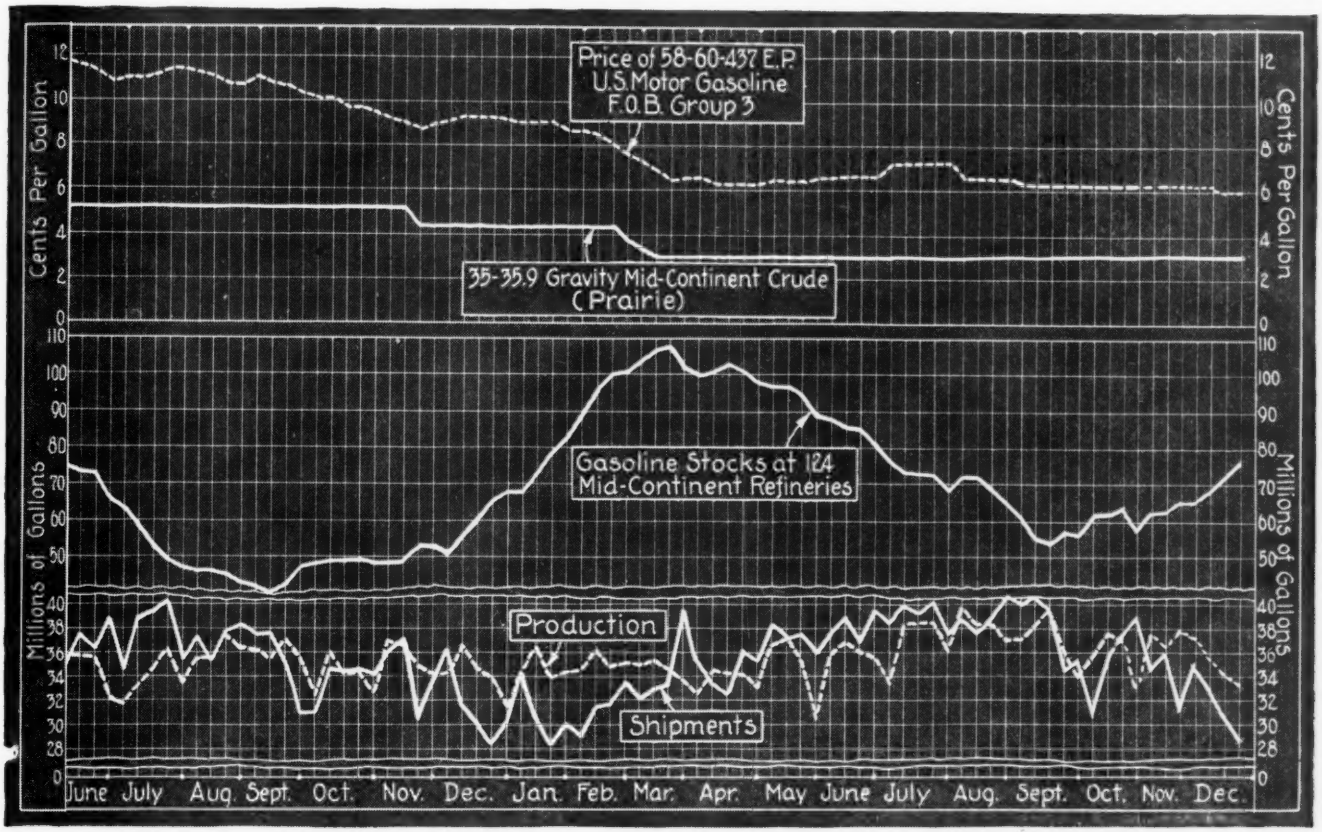
Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Dec. 23. Change in stocks figured from Nov. 25.

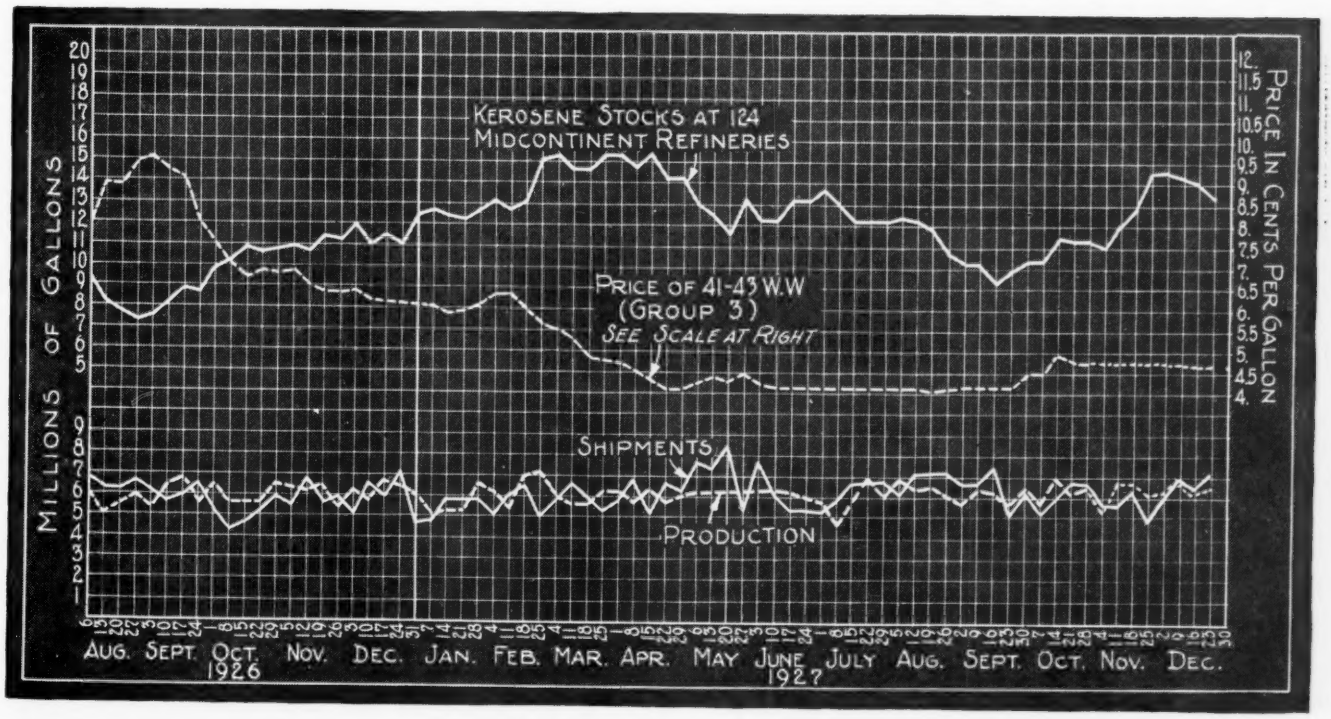
	Gallons
GASOLINE	
Production	136,685,000
Shipments	131,637,000
Net changes in stocks	+ 5,048,000
Ratio sales to production	96.3%
KEROSENE	
Production	25,253,000
Shipments	25,213,000
Net change in stocks	+ 40,000
Ratio sales to production	99.8%
STOVE DISTILLATE	
Production	4,495,000
Shipments	7,329,000
Net change in stocks	— 2,834,000
Ratio sales to production	163.0%
GAS OIL	
Production	26,637,000
Shipments	33,933,000
Net change in stocks	— 7,296,000
Ratio sales to production	127.4%
FUEL OIL	
Production	109,104,000
Shipments	110,788,000
Net change in stocks	— 1,684,000
Ratio sales to production	101.5%

Barometer of Mid-Continent Refinery Market—Week Ending December 23

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

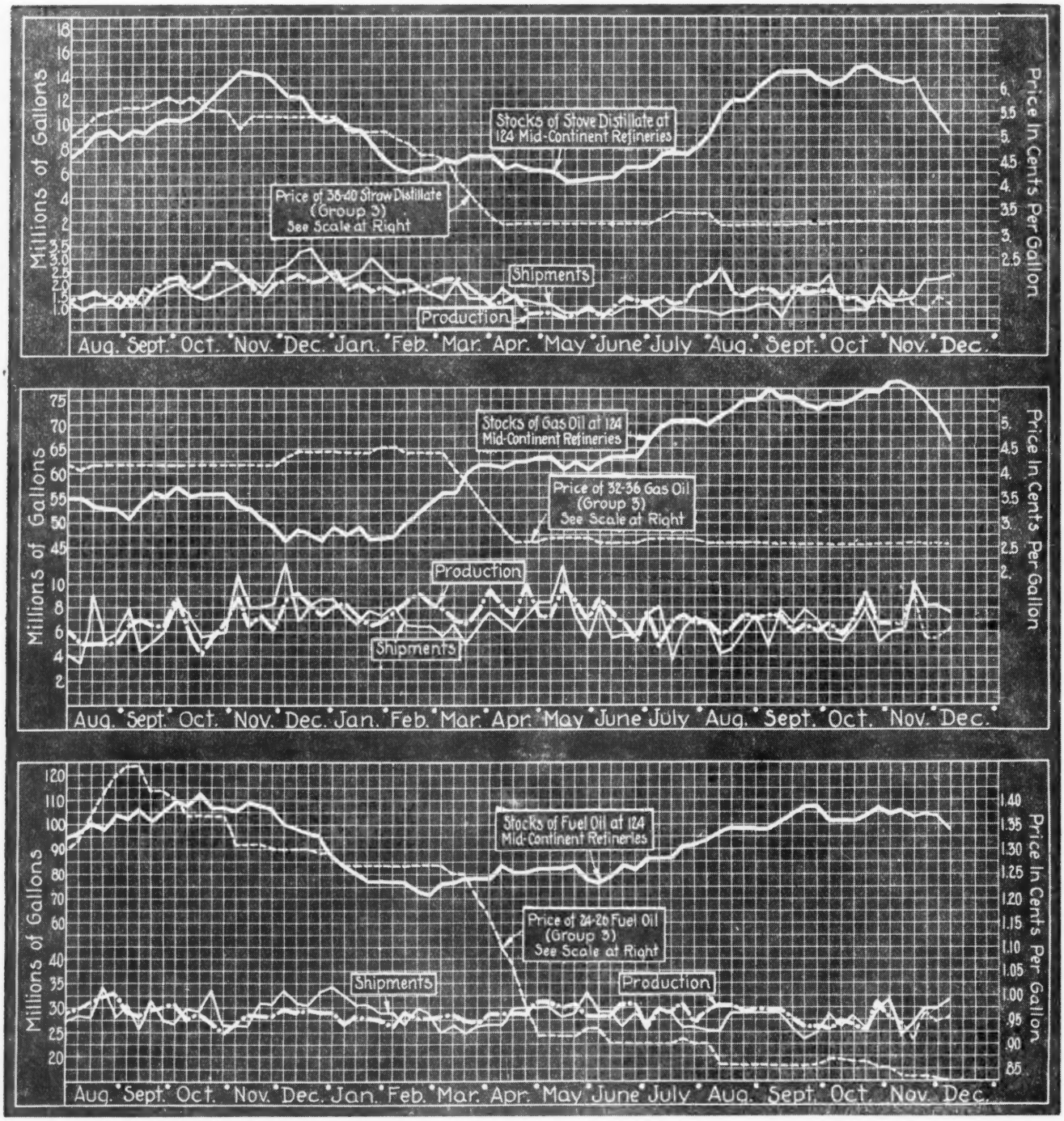

Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Cents Per Gallon
Gasoline Stocks at 124 Mid-Continent Refineries
Millions of Gallons
Production
Shipments
June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date shown in table on opposite page


KEROSENE STOCKS AT 124 MIDCONTINENT REFINERIES
PRICE OF 41-43 W.W (GROUP 3)
SEE SCALE AT RIGHT
SHIPMENTS
PRODUCTION
MILLIONS OF GALLONS
PRICE IN CENTS PER GALLON
AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
1926
1927

Barometer of Mid-Continent Refinery Market—Week Ending December 23

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News


Millions of Gallons
Price In Cents Per Gallon
Stocks of Stove Distillate at 124 Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) See Scale at Right
Shipments
Production
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct Nov. Dec.
Millions of Gallons
Price In Cents Per Gallon
Stocks of Gas Oil at 124 Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) See Scale at Right
Production
Shipments
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
Millions of Gallons
Price In Cents Per Gallon
Stocks of Fuel Oil at 124 Mid-Continent Refineries
Price of 24-26 Fuel Oil (Group 3) See Scale at Right
Shipments
Production
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

shipments 7,329,000 gallons. Stocks Dec. 23 totaled 9,662,000 gallons. A year ago stocks totaled 10,239,000 gallons, although shipments outstripped production by 3,400,000 gallons in the corresponding time last year.

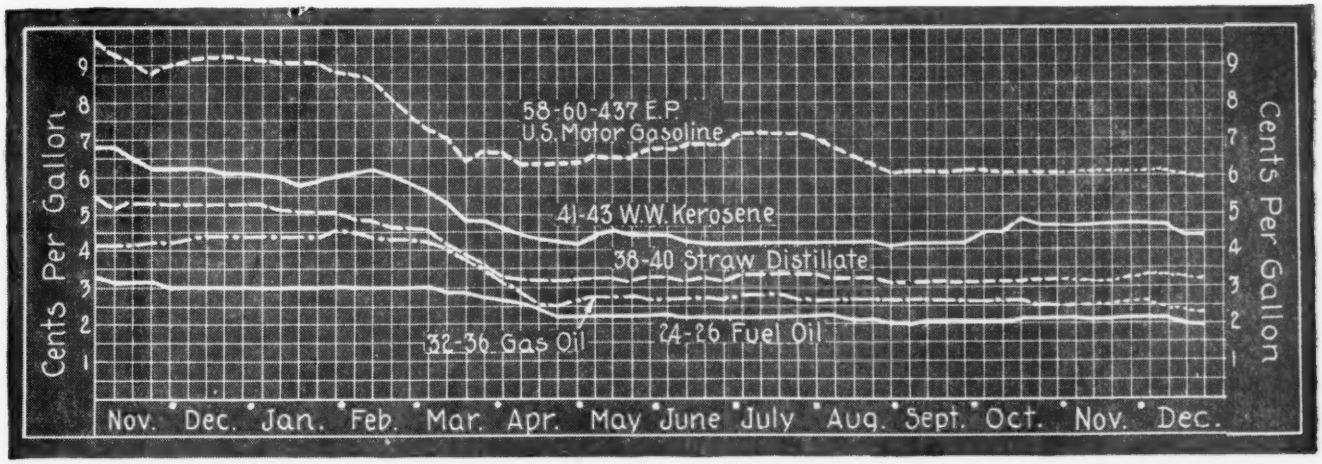
Gas oil production in all areas of the Mid-Continent was increased last week. Shipments in all areas except Texas were increased. Stocks were reduced 1,670,000 gallons to 68,124,000 gallons. Stocks this year, however, are approximately 20,000,000 gallons larger than stocks a year ago.

Oklahoma refiners enjoyed the best ratio of fuel oil shipments to production last week of any group in the Mid-Continent. Production in the whole field was virtually unchanged at 6,851,000 gallons, but shipments increased approximately 2,100,000 gallons to 9,902,000 gallons. Stocks were reduced 3,100,000 gallons to less than 100,000,000 gallons.

Kerosene production was increased in all areas except Arkansas. Shipments increased in all areas: 10.6 per cent in Kansas, 17.1 in Oklahoma, 13 in Texas and 10.4 in Arkansas and Louisiana, making the gain for the whole Mid-Continent 13.7 per cent. Stocks were reduced approximately 600,000 gallons to 13,741,000 gallons. A year ago stocks totaled 10,887,000 gallons with production and shipments about on a par with those for last week.

Gasoline stocks were increased approximately 5,100,000 gallons to 76,932,000 gallons. Production was cur-

Current Prices of Principal Mid-Continent Refined Products



Prices shown are on Group 3 basis and extended to date shown in Refinery Market Tables in Market Section of this Issue

tailed 700,000 gallons but shipments fell off 2,400,000 gallons to 28,150,000 gallons. This volume was the least since March 5, 1926. The lowest volume in 1927 was in the week ended Jan. 28.

Crude oil charges to stills were reduced 4,980 barrels to a daily average of 258,529 barrels. The reductions were made in Oklahoma and Texas. The Kansas and Louisiana-Arkansas groups increased runs a little.

Iraq and Sumatra Hold Big Reserves

(*Continued from page* 32)

limiting factor of domestic markets; and this in the face of excess crude yields to come in 1928 from the Greater Seminole district; the west Texas Permian basin area; and California.

The full effect of the exploitation of foreign reserves will not be felt in a day, a month, a year, or perhaps a decade, but it is significant that its influence is already beginning to be felt; and that salient factors in the future outlook are even now recognizable.

As mentioned in the beginning of this article, the foreign production picture is further enhanced by the Royal Dutch-Shell's recent discovery of a deeper producing horizon than previously known in the Palambang district of Sumatra. This opens to prospecting a considerably larger area in the Dutch East Indies.

It had long been recognized that structural conditions favorable to oil accumulation existed in a region of much greater extent than that heretofore developed; but the structures in these areas would not produce from the upper horizons because erosion had progressed to the point where they were exposed in drainage valleys.

The new and deeper horizon is, however, covered on these undrilled structures by a sufficient over-burden to give them definite producing possibilities over a comparatively large area. Where exposed at the surface the newly discovered producing formation is of such character that it had been heretofore considered unfavorable as a reservoir rock. Its character is now known to have undergone a change underground, farther removed from the exposure.

F. B. Dow Puts Out Gasoline Tax Digest

WASHINGTON, Dec. 28.—A digest of the various state gasoline tax laws in effect on Dec. 1, 1927, has been compiled and published by Fayette B. Dow and Horace L. Lohnes of the Washington office of the National Petroleum Association and Western Petroleum Refiners Association.

The more essential provisions included in the laws, such as amount of tax, effective date, commodity taxed, exemptions and refunds, by whom and how the tax is paid, disposition of proceeds, penalties and citation of the law or laws, have been given but no attempt has been made to give a full digest of every law.

The Lincoln Electric Co., Cleveland, has developed a new "switch start" motor for which it claims that operating characteristics such as power, efficiency, maximum torque, temperature rise, etc., have not been sacrificed in order to secure low starting currents.

It is built in sizes from ½ to 30 h.p. and for two or three phase, 60 cycle current. The motor is so designed that it can be started directly across the line without the use of a starting compensator, starting resistance, or other voltage reducing mechanism.

Equal or better efficiency and power factor from 5 to 10 points higher than the ordinary self start motor are claimed for the switch start motors.

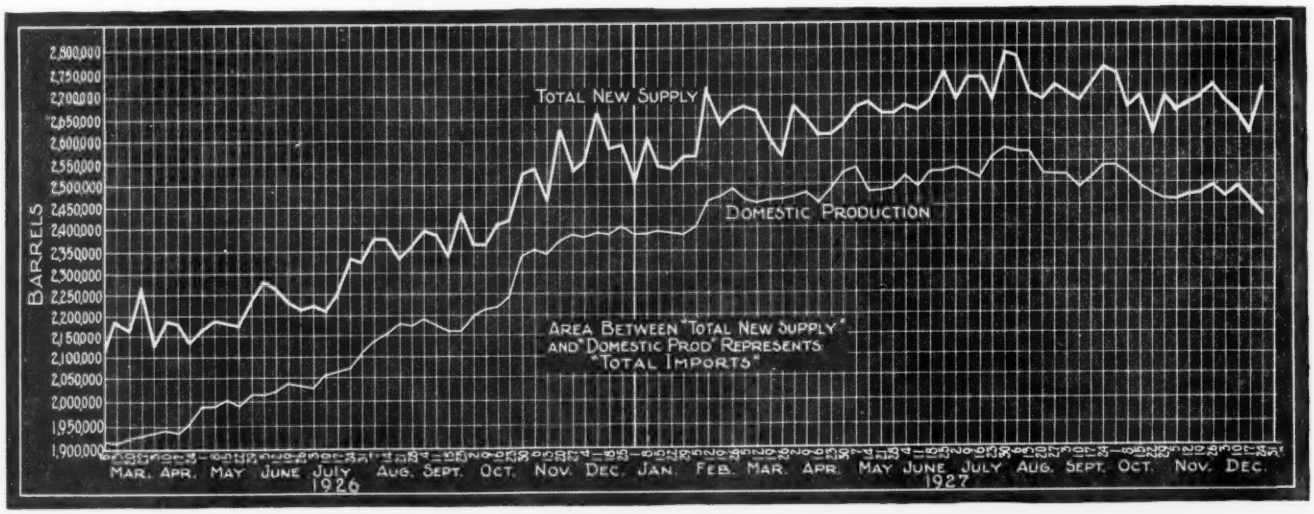
Book Reviews

"Crude," by Robert Hyde, is a story, rather two love stories, with their setting in the Signal Hill oil fields in California. It is a good yarn, vigorously told in modern style and the author was not trying to put over a bit of propaganda, either for or against the oil industry, when he wrote it. He was interested in telling a story. As much cannot be said for some of the novels that have come out recently with an oil industry background.

Mr. Hyde, evidently a new author, since this book makes no reference to previous efforts from his pen, has succeeded in getting between the covers of his novel a vivid and reasonably accurate impression of the turmoil that the opening of a new oil field brings to a countryside and also to its people. If some of the technical details might be challenged the story moves along swiftly enough to carry the reader by the points he might challenge, such as the roustabout being lowered head first down 18-inch casing set some hundreds of feet in the well to recover lost slips from the casing spider, and he is loath to drop the story to go back.

The coming of a new oil field brings mental struggles to those who have been living in hardship, but in peace, within its area, far greater than the physical struggle to wrest the oil from the ground. Their ideas of living have to be reconstructed and the reconstruction is done by the types, highly developed in the ideas of this generation, that follow the boom oil fields. Surely a theme for a real story. The book is Payson & Clarke, Ltd., New York.

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	Dec. 24	Dec. 17
Production east of Rockies	**1,810,900**	**1,832,850**
Decrease		**21,950**
Total production in U. S.	**2,432,200**	**2,456,950**
Decrease		**24,750**
Crude oil imports	**278,571**	**157,429**
Increase		**121,142**
Total crude supply	**2,710,771**	**2,614,379**
Increase		**96,392**

OKLAHOMA

	Dec. 24	Dec. 17
North Braman	3,100	2,850
South Braman	1,950	2,050
Blackwell	3,850	3,850
Hubbard	2,850	2,850
Thomas	1,900	1,950
Tonkawa	15,200	15,550
Garber	10,450	10,050
Burbank	36,850	36,900
Osage, outside Burbank	29,800	29,850
Watchorn	1,350	1,500
Cushing	21,050	21,100
Yale Jennings	9,100	9,100
Davenport	2,400	2,500
Bristow-Slick	24,600	24,600
North Okmulgee	16,000	16,000
Lyons-Deaner	6,200	6,250
Stroud	1,250	1,250
Cromwell	10,600	10,750
Papoose	5,650	5,700
Wewoka	10,450	10,450
Seminole	55,650	55,700
Bowlegs	108,450	112,350
Searight	21,300	22,100
Little River	38,750	40,300
Earlsboro	143,100	150,450
Duncan district	6,650	6,700
Graham	6,450	6,550
Fox	1,900	1,900
Healdton	14,700	14,700
Hewitt	9,400	9,400
Hewitt	12,350	12,400
Others	72,450	72,650
Total Oklahoma	705,750	720,300
Decrease		14,550

KANSAS

Greenwood County	31,000	31,100
Florence-Covert	1,450	1,400
Peabody-Elbing	3,750	3,750
Eldorado-Towanda	14,250	14,200
Augusta-Fox-Bush	4,150	4,150
Rainbow Bend	2,100	2,100
Russell	2,300	2,250
Churchill	12,550	12,600
Others	34,000	33,500
Total, Kansas	105,550	105,050
Increase		500

NORTH LOUISIANA

Homer	4,500	4,550
Haynesville	6,600	6,750
Caddo, light	12,050	11,750
Caddo, heavy	3,750	3,950
De Soto, Red River	4,200	4,200
Elm Grove	650	650
Bellevue	1,100	1,200
Cotton Valley	4,800	4,900
Urania	8,500	8,500
Pleasant Hill	850	750
Total North Louisiana	47,000	47,200
Decrease		200

ARKANSAS

El Dorado	6,250	6,500
Smackover, light	9,350	9,200
Smackover, heavy	71,550	72,450
Stephens	1,150	1,150
Nevada	3,350	3,150
Lisbon	2,600	2,650
Others	100	100
Total, Arkansas	94,350	95,200
Decrease		850

TEXAS (Outside Gulf Coast)

Panhandle District

Hutchinson County	55,300	56,350
Carson County	7,900	7,500
Gray County	19,300	20,100
Wheeler County	1,350	1,400
Others	50	50
Total, Panhandle District	83,900	85,400
Decrease		1,500

North Texas

Burkburnett	11,800	11,900
Electra	11,700	11,750
Iowa Park and K-M-A	1,900	1,900
Wilbarger	11,100	11,250
Archer County	22,900	23,000
Montague-Cooke	15,250	15,500
Others	700	700
Total, North Tex.	75,350	76,000
Decrease		650

West Central Texas

Stephens County	8,050	7,950
Eastland-Desdemona	9,150	9,000
Brown County	17,250	17,500
Coleman County	1,000	1,050
Callahan County	4,250	4,200
Schackelford County	5,000	5,100
Young County	10,300	10,150
Throckmorton County	1,050	1,150
Palo Pinto County	450	450
Others	1,650	1,600
Total, West Central Texas	58,150	58,150

West Texas

Jones County	1,400	1,450
Mitchell and Scurry Counties	3,300	3,400
Howard County	5,800	5,950
Reagon County	22,700	22,950
Crane and Upton Counties	119,000	121,100
Crockett County	3,400	3,500
Pecos County	44,300	45,300
Winkler County	62,000	54,300
Others	2,550	2,700
Total, W. Texas	264,450	260,650
Increase		3,800

East Central Texas

	Dec. 24	Dec. 17
Mexia	8,400	8,450
Currie	600	600
Richland	700	700
Wortham	2,250	2,300
Corsicana-Powell	13,050	13,150
Nigger Creek	1,950	2,050
Total, E. Central Texas	26,950	27,250
Decrease		300

Southwest Texas

Luling	14,000	14,250
Lytton Springs	1,600	1,600
Somerset	800	850
Laredo District	7,450	7,500
Piedras Pintas	400	.....
Dale	.....	400
Others	400	400
Total, Southwest Texas	24,650	25,000
Decrease		350
Total, Texas—(Outside Gulf Coast)	533,450	532,450
Increase		1,000

GULF COAST

Coastal Texas

	Dec. 24	Dec. 17
West Columbia	8,950	8,600
Damon Mound	900	800
Big Creek	2,150	2,450
Boling	2,250	2,750
Blue Ridge	3,800	4,200
Pierce Junction	12,000	15,300
Humble	1,950	1,950
Goose Creek	7,500	7,650
South Liberty	2,000	2,300
Hull	12,400	12,700
Saratoga	1,000	1,000
Batson	1,300	1,300
Sour Lake	3,850	3,900
Spindletop	53,500	55,000
Orange County	4,150	3,850
Others	3,650	3,700
Total, Coastal Texas	121,350	127,450
Decrease		6,100

Coastal Louisiana

	Dec. 24	Dec. 17
Vinton	4,750	4,850
Lockport	4,800	5,100
Evangeline	1,200	1,200
Edgerly	2,600	1,500
Others	1,550	1,600
Total, Coastal Louisiana	14,900	14,250
Increase		650
Total Gulf Coast	136,250	141,700
Decrease		5,450

ROCKY MOUNTAIN

Wyoming

Salt Creek	42,550	42,100
Grass Creek	2,500	2,450
Elk Basin	650	800
Big Muddy	2,700	2,750
Lost Soldier	2,600	2,650
Rock River	2,750	2,750
Lance Creek	650	1,050
Teapot Dome	.....	.....
Others	3,500	3,350
Total, Wyoming	57,900	57,900

Montana

Cat Creek	1,850	1,900
Sunburst	9,500	11,000
Others	150	150
Total, Montana	11,500	13,050
Decrease		1,550

Colorado

Moffat (Craig)	1,200	1,150
Fort Collins	3,150	3,050
Florence	700	700
Others	1,300	1,950
Total, Colorado	6,350	6,850
Decrease		500

New Mexico

Table Mesa	.....	.....
Artesia	1,400	1,400
Hogback	600	650
Rattlesnake	200	.....
	100	100
Total, N. Mexico	2,300	2,150
Increase		150
Total, Rocky Mountain	78,050	79,950
Decrease		1,900

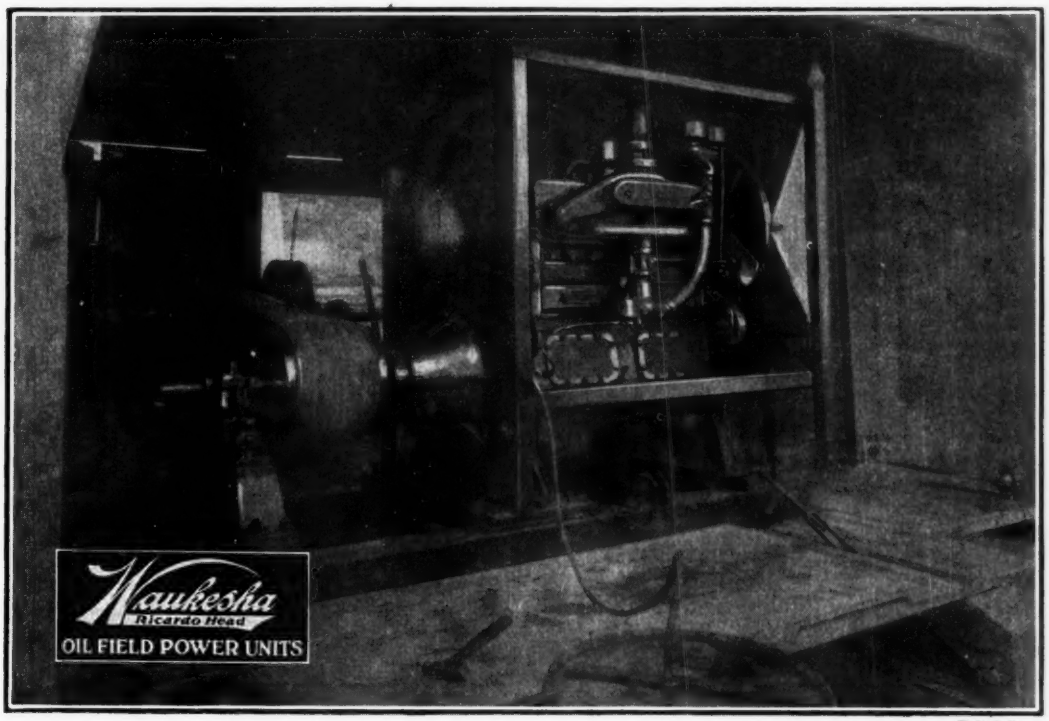
California

Santa Fe Springs	38,500	38,500
Long Beach	113,000	112,000
Huntington Beach	61,000	61,000
Torrance	20,000	20,000
Dominguez	14,000	14,500
Rosecrans	8,500	8,500
Inglewood	31,800	32,000
Midway-Sunset	81,000	81,000
Ventura Avenue	51,500	53,600
Seal Beach	43,000	43,000
Others	159,000	160,000
Total California	621,300	624,100
Decrease		2,800

Eastern

(Including Ill., Ind., Ky., O., W. Va. Pa., and N. Y.)	110,500	111,000
Decrease		500

A Waukesha Oil Field Power Unit on Drilling Rig



P-767-L

Solution of Oil Production Problems

Oil drillers and producers throughout the world have found Waukesha Oil Field Power Units invaluable for drilling and pumping. During the past year the demand for Waukesha Power Units has quadrupled. Their low initial cost, unfailing day in and day out reliability, economy of fuel and water, and ready portability have made them as great a success in Baku or Columbia, as in Seminole or along the Gulf Coast.

During the past two years Waukesha Oil Field Power Units have been adapted to cable tool drilling, supplementing a long, successful record in rotary drilling to which they were first applied. For driving oil, water and mud pumps or air compressors for "Gas Lift" no more satisfactory power is available. For economy they are unusually desirable in arid country where water is scarce and fuel expensive, for they are designed to run with "waste gas" from adjacent wells. Write for Bulletin No. 629, describing the complete Oil Field Power equipment which we build.

P-797-L

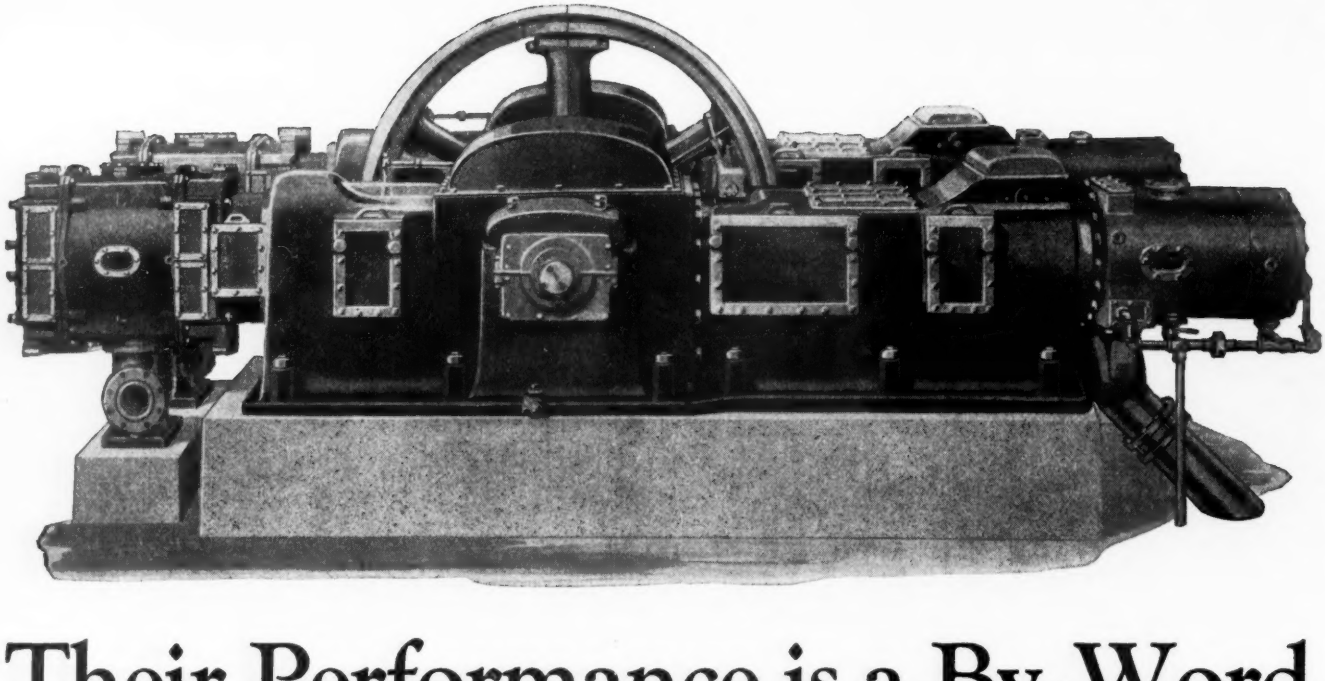
OIL INDUSTRY EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

Waukesha Wisconsin

New York	Tulsa	Houston	San Francisco
8 W. 40th St.	C. F. Camp Co.	Portable Rotary Rig Co.	C. A. Walls

Exclusive Builders of Heavy Duty Gasoline Engines for Over Twenty Years



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This development, the experimental work on which has been carried on by Bessemer engineers for the past four years and is now perfected and available to the operator, is a simple mechanical device which injects the fuel gas into the combustion chamber under pressure.

It is a simple, mechanical attachment that gives the 2 cycle power plant the gas economy of a 4 cycle.

WHEREVER they are, whatever work they may be doing, Bessemer Type Tens are known—and noted—for their outstanding performability. Cold facts alone have established Bessemers as the standard of compressor service.

High compressor and mechanical efficiency, staunchness of construction, easy accessibility, outstanding simplicity, low operating and maintenance cost and their utter reliability are all factors that have made Bessemer Type Ten performance a by-word wherever the oil industry uses compressors.

Bessemer serviceability is being unceasingly demonstrated in thousands of installations—in natural gasoline plants, on air-gas lift work and in booster stations. They offer the greatest dollar value, the greatest security for any compressor investment, and incorporate the most progressive engineering features.

See them in action—look over their performance records—then judge for yourself

THE BESSEMER GAS ENGINE COMPANY

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BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Another Water Well Injures Prospects For Field South of Little River

By Lawrence E. Smith
N. P. N. STAFF WRITER

TULSA, Dec. 24

THE final week before Christmas saw happenings of a nature calculated to help along peace and good will within the oil industry, even though in the fabricating of the glad tidings, some companies had to be martyrs.

It is a little unusual to congratulate a man when he drills a dry hole, but that outlandish thing happened during the week when the Barnsdall Oil Co. went into water in the Wilcox sand in its important test in the SE NW SE of 22-7-6, south of the Little River pool.

This area has hung like the sword of Damocles over the Mid-Continent's head for several months. The Barnsdall originally drilled this well to the top of the Viola lime and shut down with oil in the hole and formations running fairly high. The hole stood in this condition for many weeks. Then the Independent Oil & Gas Co. drilled its well in Sec. 23, which was a large producer before it was restricted to the conventional 100 barrels per day. Barnsdall started up again after the Independent well came in. Each day it looked promising for a well in the Wilcox. It made several heads of oil in the Simpson formation above the Wilcox, and was higher structurally than the Independent's well, less than three-fourths of a mile away. Altogether it looked like this area, three miles from the southern edge of the Little River pool, would be another field.

The story was short and sad when the Wilcox was reached. Top of the sand was 4266 feet and at present depth the hole is full of water. It is drilling at 4303 feet to see whether there may be a second Wilcox pay, such as was found in some other parts of the district.

A few days before the Barnsdall well finished its course the Mid-Continent Petroleum Corp. did its part toward ruining this area as an oil field. Its No. 1 Manuel test, NE SE NW of 27-7-6, was a hole full of water with the Wilcox topped at 4335 feet. It had no oil. This well is about as far southwest of the Barnsdall well as the latter is southwest of the Independent's producer. Several months ago the Mid-Continent drilled a failure just a mile west of its Manuel test, this being in the NE SE NW of Sec. 28.

The final tale has not been told on this area, of course. It will be remembered that Earlsboro was a long time in being really discovered, for operations immediately around the discovery well were discouraging. The failures in the south part of 7-6 will have a restraining influence and will tend to keep the area more securely shut down. With Little River in mind, where the development has been a dollar swapping proposition, whirlwind drilling campaigns on anything this far south will be out of the question. In fact there is serious consideration now by operators having acreage in this area of the proposal recently laid before them by Umpire Ray M. Collins to drill only two wells to the 40 acres when the area around the Independent's well opens up.

ANOTHER of the shut-in pools of the district developed a little news during the week. Gypsy Oil Co.'s No. 1 Doser, in 7-8-6, west of the Bowlegs pool, began showing water. This well has been restricted to less than 100 barrels per day—its production on Dec. 23 was 62 barrels—and nothing else has been started in the vicinity. The amount of water was small but has some significance. This well was flowing at the rate of 160 barrels per hour when it was pinched several weeks ago. A diagonal offset to this well got a hole full of water a few days before the Doser came in as a producer.

The Seminole district went through the week with a further drop in production. Daily production Dec. 23 and Dec. 16 showed a difference of 13,052 barrels, although 17 wells were added to the producing list. It hasn't dropped rapidly enough to suit some who wagered various sums on what it would be Jan. 1 and there will be much paying off by those who put it at 300,000 and less.

Next to Seminole, Logan county with its deep drilling is the most interesting spot in Oklahoma. At the end of the week the Roxana Petroleum Corp. was about due to get the Wilcox sand a quarter of a mile from its discovery. The new well, No. 1 Stephens, is in the SW corner of 29-19-4W, northwest of Lovell. The discovery well, No. 1 McCully, in the SW NE SE of 30-19-4W, has produced about 400,000 barrels since it hit the big pay the latter part of last June and still is clicking along at 2200 barrels daily. It has total depth of 5,985 feet while the Stephens was drilling at the end of the week at 6,051 feet and had not reached the Wilcox. Thus, there is a considerable drop in the formation in this short distance, probably indicating steep folding. The Stephens well got oil in the Simpson formation overlying the Wilcox and was making small heads totalling about 90 barrels per day. Roxana is offsetting the Stephens two ways, west and south, while L. H. Wentz is drilling the offset diagonally southwest. The Wentz and one Roxana offset should be completed before winter ends.

A large number of operations are under way in this area, unusually

(*Continued on page* 44)

Drilling Operations in Oklahoma, Kansas and Texas, Week Ended December 24, 1927.

	December 24 Loc.	Rigs	Week Drg.	S.D.	Total	Ended December 17 Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Burbank	4	6	16	3	29	3	5	17	4	29
Other Osage	3	5	18	3	29	3	7	19	1	30
Bristow-Cushing	9	9	32	5	55	10	9	31	4	54
North Oklahoma	15	8	67	40	130	17	9	71	40	137
South Oklahoma	4	22	125	36	187	4	20	116	36	176
Muskogee	..	9	38	26	73	..	15	38	21	74
Okmulgee-Bristow	7	33	59	21	120	7	32	61	26	126
Tonkawa	1	1	5	1	8	1	1	5	1	8
Seminole Dist	16	27	202	16	161	16	23	205	17	261
Total Oklahoma	59	120	562	151	892	61	121	563	150	895
KANSAS	26	52	107	69	254	28	50	123	52	253
TEXAS										
Central	..	124	216	124	464	..	116	212	117	445
Panhandle	..	99	92	76	167	..	98	88	79	265
N. Central	..	40	86	31	157	..	44	99	26	169
West	..	145	206	146	497	..	145	192	132	469
Laredo	..	1	25	19	45	..	1	25	19	45
Total Texas	..	409	625	396	1,430	..	404	616	373	1,393
NEW MEXICO	..	2	19	25	46	..	1	25	19	45
GRAND TOTAL	85	583	1,313	641	2,622	89	577	1,322	599	2,586

Seminole District Production by Companies and Leases, December 23 and December 16, 1927

Company	Farm	S.T.R.	Dec. 23d Wells	Dec. 23d Prod.	Dec. 16th Wells	Dec. 16th Prod.
BOWLEGS						
Amerada	Rascoe	15- 8-6	8	3,230	8	3,465
Atlantic	Baker	1- 8-6	4	755	4	810
Atlantic	Fleet	23- 8-6	4	790	4	768
Atlantic	Grayson	12- 8-6	3	1,371	2	1,461
Atlantic	A. Jones	10- 8-6	3	127	3	125
Atlantic	C. Jones	9- 8-6	2	413	2	561
Total Atlantic			16	3,456	15	3,725
Barnsdall	McNac	28- 8-6	1	35	1	35
Barnsdall	Murrow	11- 8-6	4	1,104	4	904
Total Barnsdall			5	1,139	5	939
Carter	Bowlegs	15- 8-6	3	1,330	3	1,450
Carter	Burden	23- 8-6	3	505	3	530
Carter	Harjoche	15- 8-6	6	1,025	6	675
Carter	Hilly	23- 8-6	2	815	2	815
Carter	Jones	11- 8-6	3	2,895	3	3,200
Carter	Melisse	9- 8-6	1	1,220	1	1,475
Carter	Walker	15- 8-6	3	580	3	625
Carter	Wise	23- 8-6	12	7,080	12	7,610
Carter	McGeisey		1	0	1	0
Total Carter			34	15,450	34	16,379
Empire	Lacey	15- 8-6	6	835	6	734
Empire	Wise	23- 8-6	2	1,087	2	1,105
Total Empire			8	1,922	8	1,839
Gypsy	Bowlegs	22- 8-6	1	320	1	317
Gypsy	Bradley	9- 8-6	1	50	1	65
Gypsy	Brown	33- 8-6	1	50	1	47
Gypsy	Cumsey	8- 8-6	4	1,922	4	2,052
Gypsy	Dosar	7- 8-6	1	62	1	100
Gypsy	Grayson	13- 8-6	4	1,907	4	1,985
Gypsy	Harjoche		1	1,227	1	1,360
Gypsy	Henderson		1	0	1	0
Gypsy	Jones	11- 8-6	1	0	1	677
Gypsy	Walker	15- 8-6	8	2,640	8	2,710
Gypsy	Wise	23- 8-6	3	37	3	325
Total Gypsy			26	8,215	26	9,638
I. T. I. O.	Barnett	24- 8-6	2	549	2	597
I. T. I. O.	Billington	22- 8-6	5	834	5	982
I. T. I. O.	Bowlegs	22- 8-6	11	902	11	1,146
I. T. I. O.	Burden		1	16	0	0
I. T. I. O.	Davis	13- 8-6	4	2,012	4	1,969
I. T. I. O.	Fay	18- 8-6	7	3,131	6	4,541
I. T. I. O.	Goforth	15- 8-6	11	1,852	11	2,114
I. T. I. O.	Hull	26- 8-6	1	21	1	167
I. T. I. O.	Livingston	15- 8-6	11	4,688	11	5,225
I. T. I. O.	Lizzie	11- 8-6	2	807	2	887
I. T. I. O.	Walker	15- 8-6	8	1,453	8	1,184
I. T. I. O.	Wilmont	15- 8-6	4	1,619	4	1,404
I. T. I. O.	Work		1	0	1	0
I. T. I. O.	Youngblood	22- 8-6	2	0	2	431
Total I. T. I. O.			69	17,884	68	20,617
McCulloch	Bowlegs	22- 8-6	3	392	3	240
Magnolia	Davis BF	13- 8-6	1	772	1	782
Magnolia	Davis M	13- 8-6	1	578	1	620
Magnolia	Hammond	10- 8-6	2	0	2	16
Magnolia	Rhodes	10- 8-6	2	634	2	346
Magnolia	Van Buskirk	9- 8-6	1	428	0	0
Total Magnolia			7	2,412	6	1,764
Mid-Continent	Baker	10- 8-6	4	2,611	4	2,375
Mid-Continent	Bowlegs	22- 8-6	1	0	1	135
Mid-Continent	Smith	12- 8-6	4	880	4	1,015
Total Mid-Continent			10	3,149	9	3,527
Minnehoma	Bowlegs	15- 8-6	3	137	3	215
Prairie	Gahagan	23- 8-6	4	1,165	4	1,175
Prairie	Harber	10- 8-6	8	4,295	8	4,665
Prairie	Jones	11- 8-6	3	1,215	3	1,210
Prairie	Templeton	12- 8-6	4	4,440	4	4,625
Prairie	Whitney	23- 8-6	4	470	4	500
Total Prairie			23	11,585	23	12,175
Pure	Reed	14- 8-6	15	5,176	15	5,442
Pure	D. Strother	14- 8-6	4	1,049	3	832
Pure	E. Strother		1	5	1	5
Pure	F. Strother	10- 8-6	2	1,033	2	1,033
Total Pure			22	7,263	21	7,312
Roxana	Taylor	16- 8-6	6	1,567	6	1,597
Shaffer	Lacey	14- 8-6	3	652	3	612
Sinclair	Bowlegs	22- 8-6	1	40	1	0
Sinclair	Cumsey	10- 8-6	2	4,470	2	4,590
Sinclair	Ellen	11- 8-6	6	2,687	6	2,781
Sinclair	Harjo	14- 8-6	3	1,195	3	1,140
Sinclair	Jones	8- 8-6	6	5,790	6	6,630
Sinclair	Taylor	10- 8-6	4	4,240	4	4,453
Sinclair	Walker	22- 8-6	4	1,060	4	1,145
Total Sinclair			26	19,482	26	20,739
Texas	Reed	14- 8-6	9	4,795	9	3,865
Tidal	Grayson	13- 8-6	4	1,400	3	1,530
Tidal	Harjoche	10- 8-6	6	2,375	6	2,510
Total Tidal			10	3,775	9	4,040
Twin State	Jones	10- 8-6	2	30	2	20
TOTAL BOWLEGS			291	106,535	287	112,709
LITTLE RIVER						
Amerada	Fore	35- 8-6	2	1,400	2	1,370
Amerada	Nitey	35- 8-6	4	2,755	4	2,964
Total Amerada			6	4,165	6	4,335
Barnsdall	Hotulke	22- 7-6	1	0	1	100
Blackwell	Nitey	35- 8-6	8	4,643	8	4,860
Carter	Fish	1- 7-6	4	1,875	3	2,045
Continental	Cosar	2- 7-6	2	600	2	845
Gypsy	Campbell	36- 8-6	2	317	2	365
Gypsy	Nungee	1- 8-6	1	80	1	80
Gypsy	Pottey	35- 8-6	2	695	2	782
Gypsy	Wadsworth	1- 7-6	1	37	1	42
Total Gypsy			6	1,129	6	1,279
Independent	Harris	23- 7-6	1	106	1	108
I. T. I. O.	Campbell	1- 7-6	1	206	1	210
I. T. I. O.	Dungan	35- 8-6	3	3,282	3	3,532
I. T. I. O.	House-MA	1- 7-6	1	569	1	483
I. T. I. O.	A-House WE	1- 7-6	1	54	1	56
I. T. I. O.	B-House-WE	2- 7-6	3	2,289	3	2,267
I. T. I. O.	Jackson	1- 7-6	3	2,836	3	2,269
I. T. I. O.	McCulla	1- 7-6	3	1,164	3	1,188
I. T. I. O.	Nitey	2- 7-6	6	1,909	6	1,491
I. T. I. O.	Phoebe-A	36- 8-6	2	757	2	822
I. T. I. O.	Phoebe-B	36- 8-6	3	1,016	3	1,262
I. T. I. O.	Reed	1- 7-6	1	165	1	113
I. T. I. O.	Sotkneche	1- 7-6	4	1,028	4	1,237
Total I. T. I. O.			31	15,275	31	19,278
Magnolia	Cruse		1	910	1	600
Mid-Continent	Wadsworth	26- 8-6	7	1,625	7	1,500
Mid-Continent	Smith	12- 8-6	1	40	1	50
Total Mid-Continent			8	1,665	8	1,550
Philmack	Davis	1- 7-6	1	1,775	1	1,785
Pine-et al	Pottey		1	400	0	0
P & R	Dungan		2	145	2	400
P & R	House	2- 7-6	4	2,450	4	2,800
Total P & R			6	2,595	6	3,200
Roxana	Smith	1- 7-6	1	0	1	32
Sinclair	Cosar	36- 8-6	1	300	1	1,345
Snowden-McSweeney	Tiger	13- 7-6	1	0	1	300
Superior	Wadsworth	1- 7-6	1	21	1	10
Texas	C ker	1- 7-6	3	750	3	700
Tidal House	House	1- 7-6	3	1,855	3	1,520
Tidal	Johnson	1- 7-6	1	90	1	70
Total Tidal			4	1,945	4	1,590
TOTAL LITTLE RIVER			87	38 154	85	39,604
EARLSBORO						
Amerada	Anderson	15- 8-6	3	1,825	3	45
Amerada	Cowden	4- 9-5	8	2,585	8	2,290
Amerada	Rodgers	3- 9-5	3	3,080	3	2,640
Total Amerada			14	6,490	14	4,975
Barnsdall	Brown	10- 9-5	4	2,668	4	3,229
Barnsdall	Bruner-F	2- 9-5	2	812	2	69
Barnsdall	Bruner-N	11- 9-5	4	2,145	4	1,347
Barnsdall	Cudjo	11- 9-5	1	28	1	27
Barnsdall	Davis-D	11- 9-5	3	2,251	3	2,754
Barnsdall	Davis-J	11- 9-5	4	940	4	1,383
Barnsdall	Davis-M	11- 9-5	3	2,670	3	2,785
Barnsdall	Gibson	9- 9-5	7	2,515	7	1,964
Barsndall	Hearn		1	7	1	7
Barnsdall	Ingram	4- 9-5	7	5,262	7	6,346
Barnsdall	Pack	10- 9-5	4	175	4	194
Barnsdall	Peter	10- 9-5	4	268	4	430
Barnsdall	Sango	2- 9-5	3	3,511	3	1,127
Barnsdall	Sebolka	15- 9-6	1	1,012	1	889
Barnsdall	Sullivan-H	11- 9-5	2	0	2	197
Barnsdall	Sullivan	10- 9-5	3	71	3	71
Barnsdall	Watsutke	12- 9-5	4	1,264	4	978
Total Barnsdall			57	25,599	57	23,728
Carter	Davis	13- 9-5	1	990	1	1,010
Carter	Payne	12- 9-5	3	920	3	980
Carter	Sango	2- 9-5	3	6,780	3	7,455
Total Carter			7	8,690	7	9,445
Continental	Kays	2- 9-5	2	645	2	615
Continental	Spencer	12- 9-5	4	2,040	4	2,210
Total Continental			6	2,685	6	2,825
Crosbie	Bryant	9- 9-5	2	455	2	500
Empire	Barker	12- 9-5	1	3,477	1	3,502
Empire	Edmundson	3- 9-5	3	1,690	3	1,589
Total Empire			4	5,167	4	5,091
Gypsy	Bruner	10- 8-6	4	3,300	4	4,885
Gypsy	Carter	11- 8-6	11	5,682	10	6,547
Gypsy	Hunick	5- 9-5	1	1,375	1	122
Gypsy	Noble	12- 9-5	4	4,357	4	5,702
Gypsy	Peter	10- 9-5	6	170	6	25
Gypsy	State	16- 9-6	4	1,500	4	972
Gypsy	Sango	1- 9-5	4	8,122	4	9,962
Gypsy	McFarland		1	0	0	0
Gypsy	Earl		1	57	1	0
Total Gypsy			36	24,563	34	28,195
Independent	Bruner	10- 9-5	4	475	4	390
Independent	Gaines	11- 9-5	2	2,695	2	785
Indep.	Knapp	8- 8-5	5	3,374	5	3,717
Indep.	O'Dell	4- 9-5	4	80	4	130
Indep.	Sullivan	10- 9-5	2	25	4	30
Total Independent			19	6,649	19	5,052
Interocean	Payne	12- 9-5	1	0	1	20
Magnolia	Bryant	9- 9-5	6	2,175	6	2,412
Magnolia	Cowden	4- 9-5	4	64	4	73
Magnolia	Dixon		1	0	1	38
Magnolia	Edmundson	3- 9-5	3	32	3	16
Magnolia	Holmsley	11- 9-5	8	2,947	8	7,167
Magnolia	Ingram	10- 9-5	1	30	1	35
Magnolia	Lena	10- 9-5	3	90	3	90
Magnolia	Seay	12- 9-5	8	2,865	8	1,718

(Continued on Page 43)

Seminole District Production by Companies and Leases, December 23 and December 16, 1927

(*Continued from Page 42*)

Company	Farm	S.T.R.	Dec. 23d Wells	Dec. 23d Prod.	Dec. 16th Wells	Dec. 16th Prod.
Magnolia	Simpson	10- 9-5	4	384	4	334
Magnolia	Sparks	11- 9-5	7	3,072	7	3,323
Magnolia	Sullivan	12- 9-5	3	873	3	1,195
Total Magnolia			48	12,532	48	16,401
Mid-Continent	McCumber	9- 9-5	7	1,525	7	1,535
Mid-Kansas	Anderson	14- 9-5	4	445	4	424
Phillips	Dunnaway	15- 9-5	1	30	1	27
Phillips	Graham	9- 9-5	7	200	7	20
Total Phillips			8	230	8	47
Prairie	Baker	23- 9-5	1	50	1	50
Prairie	Davis	13- 9-5	4	1,260	4	1,344
Prairie	Graham-C	3- 9-5	2	60	2	710
Prairie	Graham-O	10- 9-5	4	2,700	4	2,165
Prairie	Stidham	11- 9-5	13	7,195	13	7,130
Total Prairie			24	11,275	24	11,399
Roxana	Bayliss	17- 9-5	1	0	1	17
Roxana	Spencer	12- 9-5	2	1,820	2	2,143
Total Roxana			3	1,820	3	2,160
Shaffer	Clark	1- 9-5	5	1,355	4	1,483
Sinclair	Foreman	18- 9-5	1	15	1	15
Sinclair	Hollins	12- 9-5	3	155	3	510
Sinclair	Sango	2- 9-5	1	5,770	1	6,130
Total Sinclair			5	5,940	5	6,655
Skelly	Spencer	12- 9-5	2	1,696	2	1,948
Texas	Anderson	2- 9-5	6	1,320	6	1,705
Texas	Brown	10- 9-5	8	2,045	8	2,015
Texas	Rodgers	5- 9-5	3	6,095	3	6,335
Texas	Wilmont	10- 9-5	6	3,155	6	2,195
Total Texas			23	12,615	23	12,250
Tidal	Watkins	9- 9-5	6	2,555	6	1,985
Twin State	Barker	12- 9-5	4	270	4	250
Twin State	Hearn	2- 9-5	3	7,445	3	9,420
Total Twin State			7	7,715	7	9,670
TOTAL EARLSBORO			286	140,991	285	145,788
TOTAL LITTLE RIVER			87	38,154	85	39,604
TOTAL SEARIGHT			68	20,423	69	22,415
TOTAL BOWLEGS			291	106,535	287	112,709
TOTAL SEMINOLE			319	56,484	319	55,124
GRAND TOTAL SEMINOLE AREA			1,052	362,587	1,045	375,639
Avg. per well				344		359

Completions in Oklahoma and Kansas, Week Ended December 24, 1927

Company	Well No.	Location	Depth	Init. Prod.
OKLAHOMA				
Carter County				
Magnolia	1	NWc NE NW 23-1-3 W	2343-2485	100
Magnolia	2	SWc SE NE 21-2-3 W	2233-2261	15
Magnolia	8	NEc NW 19-1-3 W	T.D. 2800	Dry
Magnolia	1	NWc NE NW 33-4-1 W	T.D. 4340	Dry
Cimarron County				
Belle	1	SWc NE 22-3-7 E	T.D. 4392	Dry
Creek County				
Curtis et al	2	NEc SW SE 23-16-10 E	T.D. 3085	Dry
Drew	1	NEc SE 32-18-11 E	1609-1643	15
Ray	2	NWc NE NE 13-17-10 E	1887-1909	30
Grady County				
Stogner et al	10	SEc NE 23-5-8 W	2031-2069	66M
Okla. Gas Utilities	2	NWc NE 2-4-8 W	2154-2400	40M
Carter	4	NEc SW SW 35-3-5 W	1507-1525	40
Hughes County				
Independent	5	SEc 18-8-10 E	3750-4025	20&4M
Kay County				
Wentz	1	SWc 20-27-1 W	692-697	1.9M
Vernon	4	SEc SW SE 17-29-1 E	T.D. 3537	Dry
Blackwell	11	SEc NE NE SE 18-28-1 E	T.D. 3812	Dry
Lincoln County				
Shaffer	1	SEc SW SE 31-17-5 E	4248-4289	865
Logan County				
Ramsey Bros	1	SWc SE NE 16-18-4 W	3988-4085	89
Muskogee County				
Link	2	CEL SE NE 32-15-15 E	T.D. 2194	Dry
Okfuskee County				
Burns	3	SEc SW NE 12-12-10 E	T.D. 2845	Dry
Okmulgee County				
Henthorn	6	NEc SW NE 18-14-15 E	T.D. 1300	Dry
Eagle Picher	1	NWc NE 5-12-12-E	T.D. 2338	2M
Rine et al	2	SEc SW 9-14-14 E	1240-1252	5M
Shelton	2	NWc SW 32-13-14 E	1183-1210	8
Osage County				
Kewanee	10	NWc SE NW 34-27-6 E	2846-2921	175
Kewanee	5	NEc SE SW 34-27-6 E	2746-2812	175
I. T. I. O.	387	SWc NE NE 17-27-11 E	730-747	1M
Pontotoc County				
Louisiana	4	SEc NE SW 17-5-8 E	2423-2466	200
Kilgore	1	NWc NE 29-5-8 E	T.D. 2707	6&3M
Seminole County				
Texas	7	SWc SE 2-9-5 E	4270-4278	575
Texas	7	SEc SW NW 10-9-5 E	4380-4384	100
Magnolia	9	SEc NW SW 12-9-5 E	T.D. 4294	137
Barnsdall	1	NEc NW 14-8-5 E	4291-4296	1396
Gypsy	1	SEc SW NW 10-8-6 E	4195-4219	1347
Magnolia	1	SEc NE 10-8-6 E	4120-4267	284
Carter	5	NWc SW 36-8-6 E	4223-4234	380
Carter	6	SWc NW 36-8-6 E	4201-4204	785
Sinclair	1	SWc NW NW 36-8-6 E	4378-4385	2105
Tidal	3	NEc NW 1-7-6 E	4125-4234	50
Stephens County				
Smith Law	2	NWc SE NE 31-1-8 W	1903-1910 OWD	4M
Tulsa County				
Lockwood et al	1	NWc SW SW SE 15-19-11 E	2198-2227	75
Glidden	1	SWc NW 35-19-13 E	1937-1949	¼M
Sunray	1	NEc NW 36-16-13 E	1624-1633	5M
Anadarko Western	1	NWc SE SW SW 33-19-11 E	T.D. 2630	Dry
Minshall	3	NWc NE NE 9-18-13 E	T.D. 1679	Dry
Wagoner County				
Winters	1	NEc SE SW 1-19-15 E	T.D. 2704	Dry
Stryker	2	NEc SW SE 19-18-16 E	T.D. 980	Dry
Stryker et al	5	NWc SE 19-18-16 E	T.D. 820	Dry
Bentley	1	NEc SW 25-17-15 E	T.D. 1313	Dry
Knox et al	1	NEc SW NW 10-17-17 E	T.D. 706	Dry
McCracken	4	NEc SW 21-18-17 E	868-889	3
KANSAS				
Barton County				
Huffine et al	1	C SW SW 6-18-12 W	T.D. 4390	Dry
Cowley County				
Shawver et al	1	SWc NE 19-34-3 E	T.D. 1884	Dry
Nathan et al	1	NEc NW SE 17-34-4 E	T.D. 648	Dry
Hull	2	NWc SE SW 24-32-4 E	2960-3041	50
Greenwood County				
Manhattan	6	SWc NW NW 11-22-10 E	2146-2182	250
Theta	2	SWc SE SE 23-22-12 E	1645-1719	150
Empire	1	NEc 26-22-12 E	1648-1705	160
Davis et al	1	SWc NW NE 30-22-13 E	T.D. 1790	Dry
Stephens County				
Independent	1	C SW 31-33-37 W	2620-2805	5M
Sumner County				
Derby	1	Blk 88 14-32-2 E	1250-1252	370
Roxana	1	SEc NE SW 14-32-2 E	1961-2088	1000
Hartman et al	2	SWc SE NE 18-35-1 E	2266-2301	6M

Completions in North Louisiana and Arkansas, Week Ended December 22, 1927

Company	Well	Location	Depth	Yield
Louisiana—Webster Parish				
Magnolia Pet. Co.	Newsome No. 1	32-23-9	2639	36,369,000 ft. gas
Bossier Parish—Cartersville				
Belchic & Laskey	G. W. Roberson No. 1	22-23-12	3085	15M gas
Caddo Parish—Caddo				
Magnolia Pet. Co.	Robertshaw No. 21	23-21-15	3938	650 bbls.
Simplex Oil Co.	Hunsicker No. 1	15-20-15	2215	150 bbls.
Cotton Valley—Webster Parish				
Magnolia Pet. Co.	Marshall No. 5	21-21-10	2531	25 bbls.
Ohio Oil Co.	R. L. Holloway No. 4	23-21-10	4537	3M gas
Bossier Parish—Elm Grove				
H. L. Goodwin	Curtis No. 1	2-16-13	2604	4M gas
C. F. Davis et al	Simpson No. 4	14-16-12	861	2M gas
Sabine Parish—Pleasant Hill				
Magnolia Pet. Co.	Rembert No. 2	32-10-12	3240	50 bbls.
Moffett et al	Moore No. 3	5-9-12	3332	40 bbls.
Richland Parish				
Moody & Seagraves	McClanahan No. 1	36-16-5E	2455	36M gas
Natural Gas & Fuel Corp.	Sartor A-1	9-16-6E	2454	67M gas
Ouachita Parish				
Southern Carbon Co.	Fairbanks No. 8	38-19-4E	2133	5M gas
Waskom—Harrison Co., Texas				
J. R. Bahan	Furrh No. 5	J. Short HRS	1015	4M gas
Ferguson et al	C. M. Abney No. 1	G. W. Martin HRS	936	3M gas
Magnolia Pet Co.	Will Anderson No. 1	J. Womack HRS	2402	25 bbls.
A. W. Waller	J. M. Bryson No. 2	W. R. Anderson HRS	1915	6M gas
S. H. Gardner et al	Roquemore No. 1	B. C. Jordan HRS	2296	3M gas
Arkansas—Miller County				
E. A. Martin, trustee	Mann No. 1	22-15-26	3001	dry, aband.
Union County—East Field Extension				
Ohio Oil Co.	Rich Pumphrey No. 1	2-17-14	3012	20M gas
Grimes Brothers	Williams No. 2	8-18-14	2239	150 bbls.
Smackover				
Lion O. & R. Co.	Hays No. 1	4-16-15	2345	30 bbls.
Sunny Jim Oil Co.	Flenniken No. 7	9-16-15	2455	30 bbls.

Completions in Texas, Week Ended December 24, 1927

Company	Well Farm	Location Survey	Depth	Init. Prod.
NORTH AND EAST-CENTRAL TEXAS				
Brown County				
Adamson et al	2-Debney	Brooks	1129-1150	4M
Selby	23-Ellis	SA&MG	1320-1350	700
Stock-Love	1-Graham		T.D. 2055	Dry
Russell et al	1-Turner	Graham	T.D. 580	Dry
Dozier	1-Evans	Bannister	T.D. 1420	Dry
Ditto Oil Int	1-Baler	Cherry	T.D. 2258	Dry
Elms et al	1-Brownwood	Hulling	T.D. 1600	Dry
Callahan County				
Kelly et al	1-Radford	Boal	T.D. 643	Dry
Mook et al	2-Baum	Vigal	1684-1743	35
Coleman County				
Roth et al	2-Smith	GH&H	2916-2918	4M
Belle	9-Pope	Martinez	T.D. 1607	Dry
Eastland County				
Milham	1-Barnett	H&TC	T.D. 2865	Dry
Chestnut-Smith	1-Griggs		2970-3035	40
Jack County				
Security	4-Cullers	Cullers	2005-2013	100
Security	5-Cullers	Cullers	1990-1997	95
McCulloch County				
Brown et al	1-Shelton	H&TC	T.D. 1252	Dry
Shackleford County				
Roeser et al	1-Walker	TE&L	T.D. 802	Dry
Smith County				
Gaither et al	1-Parker	Grant	T.D. 3260	Dry
Stephens County				
Barnhart et al	1-Gardenhire	T&P	T.D. 2075	Dry
Young County				
Linsley	1-Bryan	Lynch	T.D. 2405	Dry
Paull	4-Morrison	Sherrell	2221-2231	126
NORTH TEXAS				
Archer County				
Koltex	4-White	ATNC	1446-1452	25
Burns et al	1-Burns	Harris	1499-1501	45
Barnsdall	1-Wilson	ATNC	T.D. 1716	Dry
Goodman et al	1-Coleman	Coleman	T.D. 1600	Dry
Texas	1-Wilson	ATNC	T.D. 1629	Dry
Texas	1-Seay	Harris	T.D. 1550	Dry
Staley et al	1-Seay	Harris	T.D. 1653	Dry
Weldon et al	1-Cuba	Probert	T.D. 1495	Dry
Madden et al	1-Hausler	Pointevant	T.D. 1141	Dry
Cooke County				
Hamilton et al	3-Bindle	MT	1370-1394	15
Oil Operators Trust	9-Kleiss	MT	1611-1632	29
Montague County				
Arco	1-Salmon	Robertson	T.D. 1450	Dry
Oil Operators Trust	1-Hedgpeth	Mills	T.D. 2150	Dry
Arco	2-Loy	Donoho	802-820	20
Wichita County				
Hobbs	2-Watkins	WVFL	1523-1525	25
Texas	333-Waggoner	H&TC	T.D. 2250	Dry
Continental	1-Ancel	H&TC	T.D. 1788	Dry
Wilbarger County				
Petroleum Prod	1-Waggoner	H&TC	T.D. 2396	160
Barnes	2-Ancel	H&TC	1724-1732	72
Young County				
Texas	1-Stowe	Pointevant	1077-1080	9
Roberts	1-Stewart	Dawson	T.D. 903	Dry
PANHANDLE				
Armstrong County				
Meadors et al	1-Harrell	A&B	T.D. 4925	Dry
Childress County				
Continental	1-Smith	H&GN	T.D. 3548	Dry
Gray County				
Operators Oil	2-Bowers	I&GN	3040-3413	19M
Navillus	1-Fee	ACH&B	2601-2839	150
Hutchinson County				
Antelope Creek	2-Sanford	N&TC	3032-3082	18
Wheeler County				
Dobb et al	1-Pakan	H&GN	2008-2130	5M
WEST TEXAS				
Crane County				
Pecos	13-Univ.	Univ.	2800-2960	1005
Pecos	14-Univ.	Univ.	2800-2950	929
Simms et al	12-Univ.	Univ.	2815-2885	70
Duffey et al	1-Cowden	CCSD	T.D. 3412	Dry
Crockett County				
Smith	1-Blackney	TC	T.D. 4050	Dry
Glasscock County				
California	2-Currie	W&NW	T.D. 1613	Dry
Howard County				
Magnolia	1-Roberts	W&NW	2956-2990	2857
Gulf	3-Chalk	W&NW	1738-1753	3M
Merrick et al	4-Hooke	W&NW	1814-1849	100
Vi-Tex	1-Clay	W&NW	1748-1786	125
Marland	2-Chalk	W&NW	1744-1750	90
Irion County				
Whitmer	1-Meyers	SP	T.D. 3775	Dry
Whitmer	1-Roberts	SP	T.D. 1040	Dry
Nolan County				
Peters	1-Boothe	T&P	T.D. 3212	Dry
Pecos County				
Kirby	1-Turney	T&STL	T.D. 1189	Dry
Garland et al	1-McKenzie	T&STL	T.D. 3501	Dry
Gulf Prod	1-Yates	CSL	1345-1540	430
Gulf Prod	3-Yates	CSL	1265-1430	80
Humble	1-Smith	TC	1340-1512	85
Marland et al	11-Yates	TC	1190-1240	1065
Marland	6-Yates	I&GN	955-1038	65
Scurry County				
Ferguson et al	1-Bruce	H&TC	T.D. 1905	Dry
Northwest	1-Stinson	H&TC	T.D. 4527	Dry
Sterling County				
Little	1-Fisher	T&P	1457-1485	½
Williams	1-Clark	GC&SF	1079-1090	2
Tom Green County				
Camp	1-Wilkey	BAL	T.D. 1003	Dry
Winkler County				
Mathews	1-Cowden	PSL	T.D. 3900	Dry
Hill	1-Amberguy	PSL	T.D. 4800	Dry
Llano et al	1-Scarborough	PSL	3127-3447	127

(*Continued from page* 41)

large considering the depth and lack of geological information. Short term leases are responsible for many of them. Production in sands above the Wilcox has been disappointing thus far. During the past week Ramsey Brothers got small production in a Tonkawa series sand at 4119-22 feet. It made one flow of about 25 barrels and some gas. Salt water also showed. The well is in the NE SW of 33-18-4W.

DOWN in the 5-5 country of Oklahoma, northwest of Ada and just north of the town of Beebe, where indifferent shallow production has existed for several years, the belief has persisted that something deeper should be found. A little encouragement was given to this theory late in the week when Jolly—Ogg drilled a sand at 2606-98 feet in the C SE SW of 29-5-5. At last report the hole was full of oil.

West of the Wewoka field better than five miles, Magnolia Petroleum Co. found sand at 3208-12 feet in the SW corner of 31-8-7 and was shut down for orders with the hole full of fluid, about half of which was estimated to be oil.

Two widely separated wildcats in western Kansas are showing a little oil, both being in the general neighbordhood, as distances go in that country, of the Fairport field of Russell county. Derby Oil Co.'s No. 1 Kruse, in the NE NW NE of 3-10S-16W, Rooks county, was drilling ahead at 3100 feet, with 1000 feet of oil in the hole. A run of the swab yielded 15 barrels of 39 gravity oil. Little gas showed. This is about five miles south of the Vickers Petroleum Co. et al well in Rooks county, drilled last summer, which is making about 50 barrels. South in Ellis county about 25 miles from the Derby test, Tatlock and others No. 1 Luker, in the NW NE NE of 26-13S-16W got the top of a sand which showed oil at 3141 feet. It has not been drilled in.

The Texas Panhandle passed a quiet week. In Gray county, where recent developments have indicated a good sized pool, McAuley and others got a well which flowed 25 barrels per hour. This was the No. 1 Morse, Sec. 2, Block 26, H. & G. N. Survey.

Southeast New Mexico appears destined for a drilling campaign when conditions warrant it. The latest completion in that area is The Texas Co.'s No. 2 Robinson, in the NW SW of 25-16S-31E, Eddy county. Pay was found at 3985-4010. The well made 2 million feet of gas and about 200 barrels of oil before being shut in for storage. The No. 1 on this property was shut in as a 40 million foot gas well.

Venezuelan Crude Brings $1.05 in New York

NEW YORK, Dec. 24.—A 75,000-barrel tankerload of Venezuelan crude oil has been sold at $1.05 a barrel delivered at New York harbor refinery. This price nets back 85 cents a barrel at Venezuelan loading terminal and 60 to 65 cents a barrel at the well in the lake Maracaibo region.

Venezuelan crude oil has been offered at $1.10 a barrel delivered at New York harbor over the next three to six months. West Texas crude oil is $1.30 delivered to New York harbor plants, being $1.10 at the Gulf terminal and 20 cents tankerage.

New Field Operations in Oklahoma, Kansas, Panhandle and West Texas

OKLAHOMA

Carter County

Company	Well Farm	Location Survey	Remarks
Schermerhorn et al.	1-Crockett	NEc NW SW 23-1-3 W	Loc.
Humble	3-Spears	NWc NE NW 29-1-3 W	Loc.
Wirt Franklin	2-Bumpass	NWc SW SE 33-1-3 W	Loc.

Creek County

Transcont	4-Freeman	SWc SE SW 14-17-8 E	Loc.

Grady County

Galton et al	1-Soloman	SWc 25-4-8 W	Loc.
Milleur et al	1-Milleur	CEL SE SE 23-4-8 W	Loc.
Carter	1-McCaughtry	NEc SE NW	Loc.

Kay County

Wentz	1-Blackwell	SEc SW SW 20-27-1 W	Loc.
Marland	3-Dickerson	CWL NWc SE 17-29-1 E	Loc.

Logan County

Roxana	2-McCully	SEc 30-19-4	Loc.
Franklin	1-Knecht	NWc 21-18-4 W	Loc.

Muskogee County

Evans et al	1-Thompson	SWc NW SW 2-14-19 E	Loc.

Okmulgee County

Pine	4-Byrd	CEL W½ E½ SE 27-14-13 E	Loc.
Jones et al	4-Byrd	C SW NE 14-14-13 E	Loc.
Epler	1-Graham	SWc NE NE 22-15-11 E	Loc.

Osage County

Okla. Natl	779	SWc NE 33-21-12 E	Loc.
Kewanee	12	NEc SW NW 34-27-6 E	Loc.
Kewanee	11	SWc SE NW 34-27-6E	Loc.

Pawnee County

Privett	1-Houston	NEc SW 28-5-5-E	Loc.

Pontotoc County

LaSalle et al	3-Copeland	NEc SW 28-5-5-E	Loc.

Pottawatomie County

Smith et al	1-Billington	NEc NW NE 28-7-4 E	Loc.
Magnolia	1-Shipman	SWc NW NE 19-7-4 E	Loc.
Continental	4-Phillips	NWc NE SE 19-7-4 E	Loc.
Magnolia	2-Robbins	SEc SW SE 15-7-4 E	Loc.
Indep.-Darby	3-Standridge	SEc NW SW 14-7-4 E	Loc.

Seminole County

Texas	1-Reed	NEc NW NE 24-6-7 E	Loc.
Roxana	1-Micco	SWc 32-8-7	Loc.
Pure	4-Strothers-F	SEc NE SW 10-8-6	Loc.
Roxana	1-Maines	NEc NW SW 7-8-6 E	Loc.
Atkins	1-Grayson	SEc SW SE 9-9-8 E	Loc.
Mid-Kansas	3-Wilkins	SWc NE 25-9-6 E	Loc.

Stephens County

Owen-Wood	8-Massey	SWc SE NW 12-2-8 W	Loc.
Pace et al	1-Allen	CNL NW NE 3-2-8 W	Loc.
Empire	9-Cantrill	CEL SE SE 32-1-8 W	Loc.
Clark et al	1-Davidson	NEc NW SW 13-1-4 W	Loc.

Tulsa County

Burk-Gibbs	1-Scott	NWc NE NE 17-16-14 E	Loc.
Savoy	2-Scott	NEc SE NE SW 8-16-14	Loc.
Glidden et al	1-Combs	NWc SE NW 23-19-11 E	Loc.
Glidden	1-Jones	C NE NE 15-19-11 E	Loc.

Wagoner County

Stryker	2-Letterman	NEc SW SE 19-18-16 E	Dry 822'
Stryker-Welck	5-Sinkler	NWc SE 19-18-16	Dry 820'
Bentley	1-Cowhart	NWc NE NE SE 25-17-15	Dry 1313'
Knox et al	1-Lumpkin	NE SW NW 10-17-16 E	Dry 706

KANSAS

Barber County

Company	Well Farm	Location Survey	Remarks
Barton	1-Blunk	CNE NW 20-34-13 W	Loc.

Butler County

Basom et al	1-Tavender	NEc SE NE 26-28-6 E	Loc.

Cowley County

Derby	1-Seaman	NEc SE NE 32-30-3 E	Loc.
Trees	1-King	SWc SE NE 14-31-4 E	Loc.
Skelly	1-Saunders	NEc NW NE 31-31-6 E	Loc.

Greenwood County

Empire	2-Ott	NEc NW NE 26-22-13 E	Loc.
Bisagno et al	2-Roglin	NWc SE SW 10-25-13 E	Loc.

Morris County

Skelton et al	1-Illes	NWc 25-16-5 E	Loc.

Sumner County

Edenfield et al	1-Barnes	S.S.F. tracks 14-32-2 E	Loc.
Roxana	6-Emerich	NEc NW SE 14-32-2 E	Loc.
Roxana	7-Emerich	CNL SE 14-32-2 E	Loc.
Roxana	8-Emerich	SWc SE 14-32-2 E	Loc.
Roxana	3-Nevitt	Tract 3-14-32-2 E	Loc.
McNabb-Bess	1-Veail	NEc SE 22-32-2 E	Loc.
Harris-Haun	1-Tamsh	C SE SW 14-34-2 E	Loc.

PANHANDLE AND WEST TEXAS

Brewster County

Company	Well Farm	Section - Block - Survey	Remarks
Cowden et al	1-Jackson	C N½ Sec. 1 Blk 331 TC	Loc.

Crane County

Humble	1-Univ. B	SW SE NW 1-30-Univ.	Loc.
Indep.	2-Lassater	SE SW NW 35-30-Univ.	Loc.

Gray County

Texas	2-Davis	SWc NW 86-3-I&GN	Loc.
Opers.	2-Jackson	NWc NE 88-B-2-H&GN	Loc.
Texas	1-McLarty	SWc E½ N½ 1-1-ACH&B	Loc.
Texas	4-Bowers	SEc 93-B-2-H&GN	Loc.
Ray et al	1-Chapman	SW NW SW 51-25-H&GN	Loc.
Guernsey	2-McKinney	SWc NW SW 163-3-I&GN	Loc.

Howard County

Magnolia	3-Roberts	NE SE NW 157-29-W&NW	Loc.
Magnolia	4-Robert	NW NW NW 157-29-W&NW	Loc.
Magnolia	5-Roberts	SW SW SW 136-29-W&NW	Loc.
Lockhart	2-Roberts	SEc NE 157-29-W&NW	Loc.
Evans	1-Roberts	NEc SE 157-29-W&NW	Loc.
Marland et al	2-Roberts	NEc 158-29-W&NW	Loc.

Hutchinson County

US Oil	1-Johnson	NE NW NE 35-Y-A&B	OWD
Deal et al	1-Johnson	NEc SE SW 28-Y-A&B	OWD

Pecos County

Sanders	1-Parker	C NE NE 307-10-GH&SA	Loc.
Humble	1-Tippett	S Sec. 40-194-TC	Loc.
Gulf	4-Yates	E SWc Runnells County Survey	Loc.
Roxana	7-Tippett	E Sec 102-TC	Loc.
Gulf	7-Yates	N NWc 103 Runnells	Loc.
McMan-Marland	15-Yates	E SEc Sec 103-TC	Loc.
California	10-Smith	Sec 35-194-TC	Loc.
Mid-Kans. et al	23-Yates	N SWc 61-1-I&GN	Loc.
Mid-Kans. et al	2-Smith	E NEc 31-194-TC	Loc.
Oregon	1-Yates	NEc 31-194-TC	Loc.
Oregon	1-Yates	NWc 58-1-I&GN	Loc.

Winkler County

So. Crude	T-67-F4	SEc 33-B-5 PSL	Loc.
So. Crude	T-67-F3	NE SE SE 33-B-5-PSL	Loc.
Roxana	5-Hendricks C	NWc 29-B-5-PSL	Loc.
Roxana	4-Hendricks	NE NW NW 29-B-5-PSL	Loc.
Roxana	3-Hendricks C	NW NE NW 29-B-5-PSL	Loc.
Humble	5-Hendricks A	SWc NE 34-B-5-PSL	Loc.
Atlantic	4-Hendricks A	NEc SW 34-B-5-PSL	Loc.

Auto Laundries at Gas Stations

(*Continued from page* 27)

filling station operator who contemplates augmenting his business with a washer must guess what his patronage will be and allow something as a "margin of error."

The washing business is more seasonable even than gasoline sales. On bright days business is good, even if the temperature is low. In fine weather the laundry patronage reaches its high point. Peaks come on Saturday and Sunday. In muddy weather the business drops off to literally nothing at most auto laundries. No motorist wants to pay $2.50 to have his car cleaned and drive it out of the laundry into a muddy street.

The operator naturally wants a big plant in the summer time so he can take care of all the business that comes to him. But in winter he prefers a cheaper place to pay overhead on when it is not earning anything. Fortunately for the operator in this climate, when business is rushing the weather is fair and part of the job can be done out of doors. A so-called "one car stand" that is properly housed and heated can take care of the small winter business indoors and in summer, on peak days, the house and its equipment can be used for hose jobs entirely, the cars being dried and polished outside.

Automobile laundries that charge top prices and do the "de luxe" jobs vacuum clean the rugs and upholstery in every car that passes through the process. An electric vacuum cleaner big enough to handle the peak load for a four-gun laundry costs around $150. Some operators make more of the vacuum cleaner than others. In some laundries rugs are swept and upholstery run over less carefully with a hand vacuum cleaner.

Few filling station men ever confine their laundry to a one-gun washer. A two-gun machine is often operated by one man in bad weather when patronage is negligible. In about half an hour he hoses off the mud, sprays and sponges the body, polishes the nickel parts, wipes the other metal parts with kerosene, shines the glass, vacuum cleans the interior and blows off the engine block with air.

The force can be increased to six persons without needing any more equipment. Two men can hose off the chassis and body; one can sponge the body and clean the interior, and two or three girls can dry, wipe and polish. Any single car occupies three positions during the process. It rolls from the wash rack to a position near a platform where it can be sponged on top as well as on the sides, and from there is pushed farther out of the way where it can be shined and polished. A two-gun one-stand laundry thus functions during peaks as a three-stand laundry.

Deepening In California Fields Holds Up Production

Staff Special

LOS ANGELES, Dec. 24

TWO wells in the Alamitos Heights area of Seal Beach have drilled below the Wasem Sand into the lowermost Fernando (upper Miocene) and both holes are coring fairly rich sands, bringing another threat that this area has a chance for a comeback in the matter of production. This area is made up mostly of townlots and is a most congested field, with derricks in some sections almost touching each other. If these two wells secure production below the Wasem, another drilling campaign is in prospect.

The older section of Seal Beach, held tightly by three major companies, where there has been practically no new work for several months, is now facing activity, as the agreement not to drill any of the older wells deeper is at an end. Late this week 11 strings of tools were running. The Marland Oil Co. is at work at 5 wells, Standard is running three strings of tools and the Associated the same number. These are deepening projects, into a deeper sand already proved, an increased production can be expected from each.

The Seal Beach production decline is likely to be halted within another three or four weeks, when the deepening work in the older area begins to bear fruit. The 11 strings now running should result in that number of deepened producers in that time, and some feel that the wells will average close to 1000 barrels to the well. If the two deeper wells in the Alamitos Heights areas prove a still deeper zone to be productive, then the drilling activity will be renewed, with probably half the holes in the area drilling deeper.

There are between 10 and 15 wells drilling for the deeper zone at Long Beach which are expected to be on production by Jan. 1, and if this expectation is realized, the production upturn will then be under good headway. A check late this week indicated that around 100 strings of tools were actually running, while a number of other wells are preparing to deepen. During the past three weeks a number of old wells have been taken off production to be drilled deeper, and the result has been that production has not mounted as fast as it would otherwise. The old wells to be drilled deeper have already been killed, and numerous completions are due soon.

AT RINCON, in Ventura county, along the ocean front, the discovery well, which sanded up twice, is preparing a come back, while two other nearby wells are ready for production tests. It is likely, barring mechanical difficulties. that Christmas week will see three wells on production. Other wells in this area, nine in number, have reached depths ranging from 900 to 2500 feet, and it is possible for all of these wells to be listed in the completion column by the end of January, as the completion depths will range from around 2700 to 3300 feet.

The Associated Oil Co.'s Patterson 1, located in a wildcat area near Whittier, just west of Whittier Boulevard, is drilling around 4200 feet this week, and the cores are looking good, with rather flattering prospects. The same company's Cypress wildcat, which has produced oil several times in an area about midway between Rosecrans and Inglewood, is about ready for another production test. It was wet the last two tests, nd plugs in the bottom have not held. The crew is also trying to recement the last string of pipe, but can't get proper circulation.

California Stacks Down In November

LOS ANGELES, Dec. 24.—California oil fields produced at the rate of 617,216 barrels a day in November, a decline of 10,168 barrels a day when compared with the previous month, according to San Francisco office of American Petroleum Institute. During November, total of 55 producers were completed, compared with 61 in October. This is against an average of 76 new oil wells per month in 1926.

Stocks of all petroleum products on the Pacific coast during November decreased 354,825 barrels. Stocks of heavy crude, including all grades of fuel oils increased 214,618 barrels to total of 93.807,893 barrels. Refinable crude stocks were reduced 470,473 barrels to total of 21,371,274 barrels. Gasoline stocks increased 127,918 barrels to total of 12,812,580 barrels. Production of gasoline by California refineries now averages close to 5,000,000 barrels monthly. Naphtha distillates stocks decreased 312,094 barrels, while all other stocks increased 85,206 barrels.

At the end of the month, 358 wells were drilling. Of this total 128 were wildcats.

Three New Directors Elected to Simms

NEW YORK, Dec. 24.—James H. Barr, Thomas J. Meager and Stephen J. Leonard have been elected directors of the Simms Petroleum Co., succeeding Matthew C. Brush, Harry Bronner and John J. Watson, Jr. Mr. Meager and Ernest Stauffen, Jr., have been elected to the executive committee.

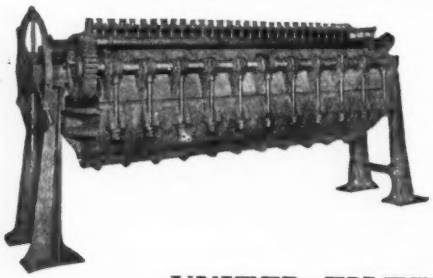
Mr. Barr is chairman of the board of the National Supply Co. Mr. Meager is a director of Skelly Oil Co., Pennock Oil Co., Maracaibo Oil Exploration Corp., and several other oil companies. Mr. Leonard is a member of S. J. Leonard & Co., New York, and a director in several large corporations in New York.

In a statement the Simms company said it was understood the American International Corp. had sold its interest in the company and the new directors represent new holdings. It was said the management would not be changed.

Wisconsin Jobbers To Meet Jan. 11

MILWAUKEE, Wis., Dec. 27.—The Wisconsin Independent Oil Jobbers Association will meet at the Plankinton Hotel here on Jan. 11, according to J. M. McLaughlin, secretary.

The Key Machines For Contact Work



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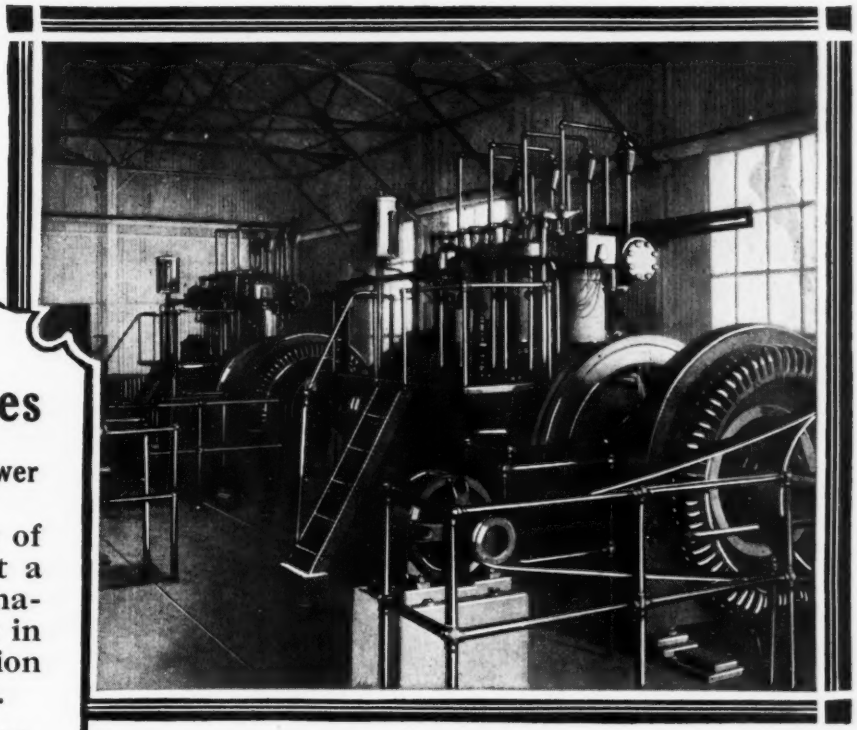

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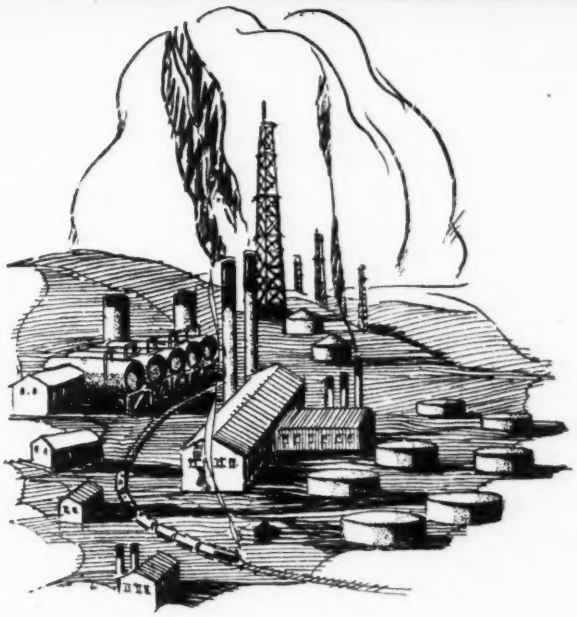

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NATIONAL PETROLEUM NEWS

1213 W. 3rd St., Cleveland, O.

Tulsa Company Makes Airplane With New Type Engine

TULSA, Dec. 22

THE first "production job" airplane turned out by the Mid-Continent Aircraft Corp., took to the air last month. This company, Tulsa financed and managed, contributed to aviation history in two respects: it is the aircraft company to incorporate as its standard power plant the new Fairchild Caminez engine, which has been attracting wide attention among aeronautical engineers and, it is producing a ship which is demonstrated to have a high degree of stability under all flying conditions.

One other ship has been completed by this company and has been in service for about a year. It was powered by a Super Rhone engine. The Fairchild Caminez engine has come into commercial production since that time. The planes are trademarked Spartan. The new one generally follows the design of the one that has been in service.

The company's factory is equipped with all machinery required to maintain steady production. The completed ship which recently made its first flight has been sold and was flown to Texas by Maurice F. Breene, oil producer and drilling contractor, who maintains offices in Tulsa and Abilene. Mr. Breene is the Texas representative of the Mid-Continent Aircraft Corp. He has used aircraft in connection with his oil field operations for about three years and is an enthusiast as to its value.

The main object in the design of the Spartan was to produce a ship that would have positive non-stalling and non-spinning characteristics. It is well-nigh impossible to make the ship roll or go into a tail spin, repeated tests have shown, the manufacturers say. There has been a departure from the usual design of wings and tail, with changes in the placing of the center of gravity. It is not a stunt ship—in fact, the makers say it cannot be made to do stunts.

The Spartan is a tractor type biplane having a single bay of struts. Wings are of semi-thick section, very light but rigid. Span of both wings is 32 feet; overall length, with engine, is 23 feet 6 inches; height 8 feet 9 inches. Total weight, with loading of 800 pounds, is 1,975 pounds.

Maximum speed is 125 miles per hour; landing speed 37 miles per hour; climbing speed 1,200 feet per minute. Normal cruising speed, with fuel tanks full, is 100 miles per hour. It carries, in tanks which are placed in the wings, 8 hours' gasoline supply which means 40 gallons, as tests on the Caminez engine have shown fuel consumption of 5 gallons per hour.

The main body structure of the ship is made of steel tubing of U. S. Army specification. All joints are welded. The tubing is treated inside and out to prevent rust and corrosion. This ship is equipped with split type landing gear with extra wide tread, allowing landings and take-offs to be made in rough fields or high grass.

The Caminez engine is something new in the internal combustion engine field. Like other modern engines, it is of fixed radial type, air cooled, but it has only four cylinders.

Changes in this engine from other design are radical. The engine has no crankshaft. The four cylinders are arranged radially around a central cam. Each piston has a large roller on the piston pin, the rollers being always in contact with the cam. Link arrangements connect the adjacent pistons and the cam is so shaped that the piston rollers follow the outline of the cam by means of the links. The drive cam is mounted directly on the engine propeller shaft and the four cylinders are set at right angles to each other about the central axis and act as guides for the reciprocating pistons.

The engine really has the efficiency of an eight-cylinder engine. It provides four piston strokes per revolution instead of two, as in the crankshaft engine. The piston in each cylinder complete a full stroke while the cam makes a quarter revolution.

By having the pistons operate directly on the drive cam and avoiding the long connecting rod length, a compact arrangement is obtained. With the further difference of having an individual bearing to transmit power from each cylinder, the objection is overcome of having one connecting rod bearing to take the entire load of the forces acting in all cylinders.

The standard commercial Fairchild Caminez engine, such as is used in the planes made by the Mid-Continent Aircraft Corp., is of 5⅝-inch bore and 4½-inch stroke with total piston displacement of 447 cubic inches. The compression ratio is 5.0 to 1. It is rated at 135 horsepower at 1050 revolutions per minute and develops 142 horsepower at 1120 revolutions per minute. Weight of the engine with exception of propeller hub and starter is 340 pounds. Again, compactness of arrangement, the use of only four cylinders, absence of valve-timing gears and elimination of counterweights makes for lightness of weight per horsepower.

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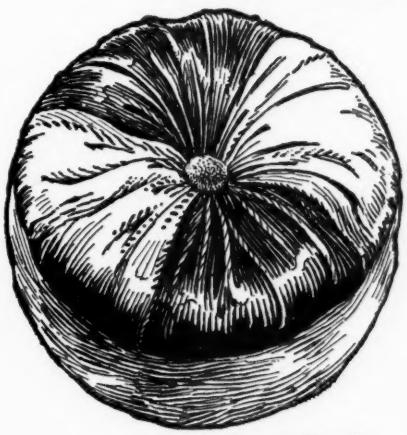

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"The truth is that the politicians have made it almost impossible for the industry to do anything to protect itself or the public.

"In strict justice the next move is up to the public, though no one would advise, until that move shall be made, delaying the doing of anything that the industry can do.

"But the oil industry has the right to demand that the public shall treat it fairly. Let not the public or its representatives, threaten this industry with

asphyxiation, through control by state commissions, if it shall not restrict production, and continue to hold over it the menaces of corporate deaths and felons' punishments if it shall adopt the only possible means to restrict production."

Extract from a paper addressed by Mr. F. C. Proctor to Mr. E. W. Clark, President, American Petroleum Institute, and appearing in the October 20, 1927 issue of The Oil and Gas Journal

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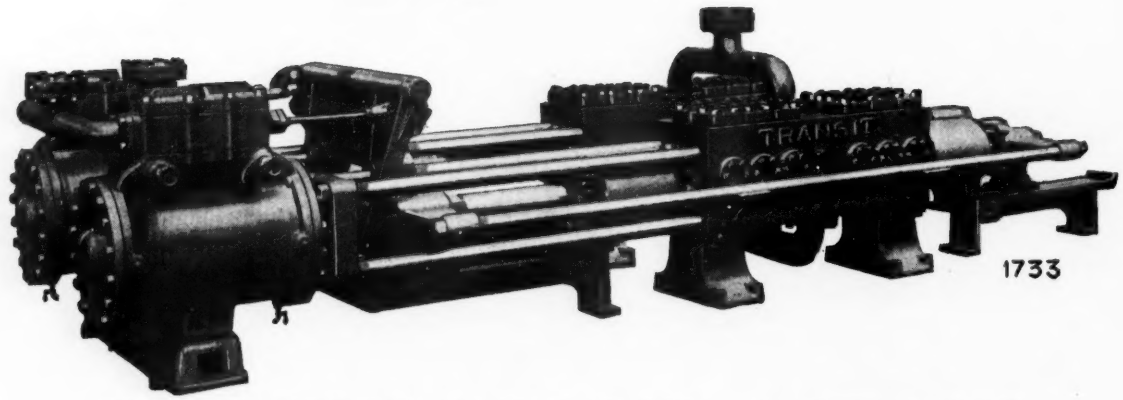
A Friendly Suggestion



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Continuous Distillation—From Crude To Pitch Bottoms

By D. F. Gerstenberger

Article 8

THE operation of continuous stills for handling crude has almost entirely replaced the old batch method. Batch operation is still in use in some plants where coking is desirable, but even here, a great many refiners prefer to skim the crude of the lighter products, carrying the distillation down below the paraffine distillate cut, and then coke the residue in separate coking stills.

A great many refiners are inclined to look on the continuous still battery as only satisfactory for carrying the crude distillation down to a fuel oil residue, whereas it is possible to operate continuous stills so that the residue very closely approaches the coking point. This article will deal with continuous operation of crude, following the various uses that it plays in the refinery operation, and pointing out particular phases of each operation that will help to make them successful.

Common to all of us is the skimming operation on a continuous basis. It is accomplished either by the use of pipe stills or shell stills, modernized or simple. Vapor exchangers, and residue exchangers are recommended as a means of obtaining a maximum capacity from such equipment. The feed still, or stills, are equipped with a feed pan, preferably in two sections, running almost the full length of the still, with one section above the other, and draining into it.

The oil is fed into the still on this pan, which slopes gradually toward one end of the still. The second or lower section receives the oil running from the end of the upper section, and returns it over its full surface before it finally falls into the oil already in the still. The object of the pan is to allow for the evaporation of the lighter naphtha ends which may be ready to vaporize as a result of the preheating, and to take care of any moisture which may be carried in the feed stock.

Such moisture can readily evaporate into steam from the shallow stream of oil flowing over the pan, and usually will cause no more damage than the possible lifting of the safety valve, when present.

No spray steam is used in the head stills on the skimming operation, and only an amount sufficient to aid in the distillation, and to keep up a good circulation, is used in the tail stills. Skimming equipment is no exception to the rule, as far as fractionation goes, and should be equipped with suitable bubble towers, so as to properly fractionate its overhead products.

In continuous reducing, preparing a residue for the manufacture of asphalt, more care must be taken to have the residue meet a certain consistency which may properly be worked up into the desired asphalt products. Cracking must usually be avoided by the use of more spray steam, and the residue maintained to the desired consistency by melting point test, rather than gravity.

WHERE the residue is to be used for oxidized asphalt, a flash is also maintained. With the asphalt operation, the residue exchanger plays a more important part in the preheating than the vapor exchanger, altho if other than fluxes are being made, the residue from the continuous operation is usually so heavy that we must be content with what little vapor heat is available, in addition to a preheating by exhaust steam, when we have it to spare for this purpose.

Care must consequently be taken, to see that the feed stock is fairly dry, for in entering the stills cold, it is possible that moisture can force its way downward and along the still bottom, before it finally reaches the steaming point, and the result is a frothing of the oil in the still, usually accompanied by considerable pressure, throwing crude over in the still house, as well as out of the safety valve. The feed still should be kept to 300 Fahr. at least, so that such a possibility may be prevented as much as possible.

Besides the skimming and asphalt reducing, continuous operation has many other applications. Some of these are reducing lube oils, rerunning crude slop, and paraffine slop, rerunning synthetic crude, and crude operation to a pitch bottom. So many of the methods of operation for these various purposes are similar, that we will go into detail in the latter operation only, which automatically covers most of the other operations.

We will start with the battery of stills completely empty, touching on methods of charging, flowing, and bringing up on stream, and also the handling of the stills for cleaning, which it will be seen, plays no small part in the success of the operation.

THE feed stock considered for the operation to be discussed, will be Mid-Continent crude which covers the light and heavy, as well as the paraffine bearing crudes.

Let us assume that our particular battery of stills consists of twelve 1000-barrel shell stills, equipped with internal flues, the three head stills being of the tube and shell type. The stills are all empty, and ready to be charged, that is, they are properly plated up, and every run-back and

Bringing the Battery On Stream

WIDER uses for the continuous still battery are discussed in this article by Mr. Gerstenberger, the eighth in the series on practical refinery operations he is writing exclusively for NATIONAL PETROLEUM NEWS. Besides skimming and asphalt reducing, continuous distillation is applicable to such operations as reducing lube oils, rerunning crude slop and paraffin slop, rerunning synthetic crude, among others, he points out.

This article also describes in detail methods of firing up and bringing upon stream a battery of stills in continuous operation.

The next article by Mr. Gerstenberger will deal with methods of increasing the throughput capacity of refineries without increasing the number of stills or other equipment.

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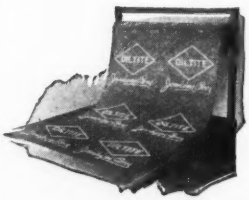

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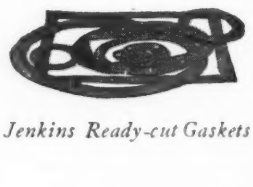

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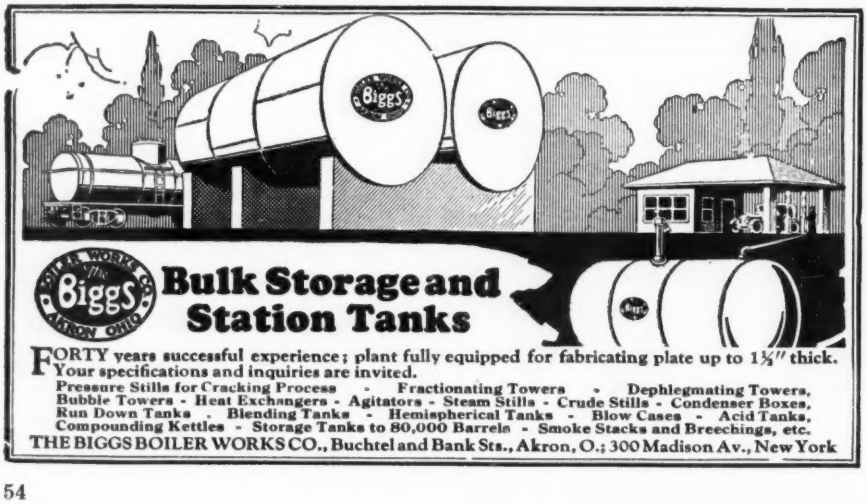

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run-in-line is open through to the house. The main flow line is open from No. 1 to No. 6 inclusive, whereas the inlet and outlet flow lines of Nos. 2, 3, 4, and 5, are closed. We will start charging cold oil into No. 1 still, and due to the line-up of the main flow line, the oil will fill No. 6 still at the same time it is filling No. 1. When No. 6 is filled to an outage of about 4 feet 6 inches, it will be cut off of the flow line, and fired, and No. 5 will be opened up so that the oil from No. 1 will likewise fill it. After it is filled, it will be fired, and No. 4 will be filled in like manner, then No. 3, No. 2, and finally No. 1 will be fired.

With the stills fired up in this manner, No. 6 will be the first still over in the house, followed by No. 5, then No. 4 and so on. And likewise, No. 6 will be reduced to the heaviest residue first. After the six stills are well up on stream, and No. 6 is into gas oil, the flowlines will be gradually opened, and the feed pump started slowly, due precaution being taken for the fact that the flow line is cold, and that it must be allowed to warm up gradually.

IN THE meantime No. 7 has been put in shape to receive oil from No. 6 by having been steamed, with the safety valve closed so that the steam will be forced over to the house, for at least one hour prior to the time of flowing. Any water which might accumulate in the still during this steaming is drawn off before flowing, and just prior to starting the flow from No. 6, the safety valve on No. 7 is raised. This must be watched carefully during the flowing operation, to be sure that there is a showing of steam at all times, to insure that there is no vacuum on the still, which might draw in air, and cause serious trouble.

The inlet flow line on No. 7 is now opened, and the outlet on No. 6 is opened sufficiently to indicate that hot oil has started over from No. 6 to No. 7. The operation is taken very slowly at first, and gradually increased as the level of oil in No. 7 rises. Flowing too rapidly at first is likely to cause rapid expansion of the cold still, and start some leaks in the bottom seams of the still, or perhaps around the supporting lugs. After a level of 2 feet of oil has accumulated in No. 7, the safety may be dropped, but it should be raised occasionally for a moment, to be sure that there is a sufficient amount of steam in the still. After the level of oil has passed the lug level, which is usually about half-way in the still, the fires may be lighted, and the steam gradually taken out, and from this point on the flowing can be increased rapidly.

When No. 7 is well up on stream, and the bottoms reduced sufficiently, No. 7 is flowed to No. 8 in like manner, and so on until No. 12 is filled. As soon as we start pumping residue

from No. 12, we will put the feed through the residue exchangers, it having already been passed through the vapor exchangers, if such be our equipment.

The pumping of residue will start when it reaches about 10 gravity, assuming that we will operate for about 4.5 gravity on No. 12, which will yield about 6 per cent of residue. Starting with the higher gravity residue gives us the opportunity of working down gradually to the lower gravity, and getting the pitch moving well in the lines and all the lines warmed up while it is still in a fairly liquid state, thus preventing the danger of plugging up the lines.

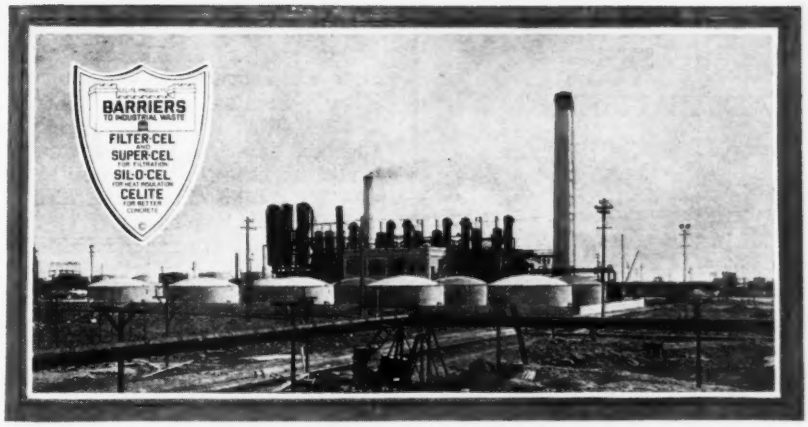
The residue pump is of the hot oil variety, and is placed as close to No. 12 as is reasonable. The hot oil from the still flows directly to the pump, and is discharged through the exchanger and cooler. A lighter grade of fuel, (a low gravity, low viscosity cracking plant fuel being suitable) is fluxed into the pitch before it enters the cooler, and it can consequently be lowered in viscosity sufficiently to be used for refinery fuel, or if desired, can be further blended off for a marketable product.

The over-head cuts would usually be,
Over to 48—cut for Naphtha.
48 to 38—cut for Kerosene distillate
38 to 33—cut for Gas oil
33 to 25—cut for Paraffine distillate
25 to off—cut for Paraffine slop,

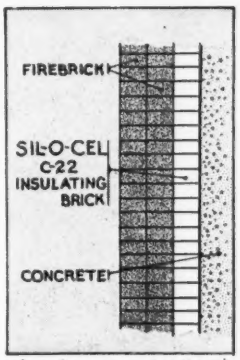
SOME cracking will take place from No. 7 still on down. This is minimized by crowding in plenty of spray steam, but it is felt that its presence, to a certain extent is desirable for the best yield and quality of paraffine distillate. Also it is a great help in preventing the congealing of wax in the condenser coils which can very readily occur due to the condensation of the steam in the presence of the wax.

The last three stills must be cleaned on an average of about once every two weeks or oftener. When No. 12 is taken down for cleaning, the residue of No. 11 should be maintained at its normal gravity and No. 12 should be cleaned as quickly as possible and put back on the line. Were the residue in No. 11 reduced to a gravity equal to what we had been maintaining on No. 12 at this time, the capacity of the battery would be affected, which would change still temperatures and stream gravities on all the stills, and the result would be a general upsetting of the entire battery.

Maintaining the gravity of the residue on No. 11, does not change the balance of the battery in any way, and we can obtain much better results in this way by keeping our runs uniform. When No. 11 still is off we will handle No. 12 as if it were No. 11, allowing the residue gravity to lighten up somewhat, thereby making it the only still in the battery which



BUILD LASTING BARRIERS AGAINST HEAT WASTE



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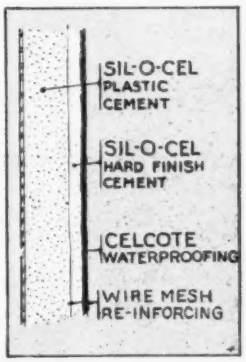

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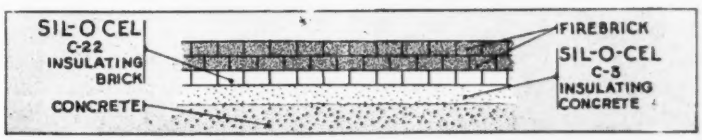

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St. Louis, Mo.

has been changed, and so on when No. 10 is taken off.

This method of handling the tail stills when operating continuously to a low percentage pitch bottom is one of the secrets of successful operation. As noted from the following operating conditions, the last two stills carry an oil level of about one third their capacity. It has been found that if the level in these stills is allowed to increase much beyond this point that they have a tendency to carry crude over to the house, whereas no trouble is experienced if a reasonably low level is maintained.

The amount of steam used for such a distillation will be about 100 horsepower per still per hour. The actual quantity in each still is variable, very little being used in the first two, and increasing until practically six times as much is used in No. 12 as is used in No. 1. The accompanying table will show the amount of steam used in spokes on the control valve for each still, and the still temperatures for this particular operation, from which it may be possible to make deductions for other operations. The residue gravity of the last three stills should be maintained for proper control, and it is likewise given herewith.

	Still gauges in feet	Spokes of steam	Still Temp. degrees	Gravity of residue
No. 1	9	½	300	.....
No. 2	9	½	375	.....
No. 3	9	1	445	.....
No. 4	9	1½	505	.....
No. 5	9	1¾	570	.....
No. 6	9	2	615	.....
No. 7	8½	2	670	.....
No. 8	7½	2½	685	.....
No. 9	7	2½	690	.....
No. 10	6	3	695	13.5° Be.
No. 11	5½	3	695	10.0° Be.
No. 12	5	3¼	695	4.5° Be.

Such an operation with proper preheat on the feed stock will take care of 450 barrels of crude per hour, or about 11,000 barrels per day.

It is believed from the foregoing, that with slight changes as may be deemed necessary due to a difference in crude, that other operations of the same nature can be carried out along these lines with very satisfactory results. If desired where bubble towers are in use, the hot pump can be used, or the steam lift employed, for transfer from still to still instead of the flow line.

However, to get the total advantage of vapor heat exchangers in this operation, the writer recommends the use of vapor heat exchangers mounted above the bubble towers to furnish the necessary reflux for the bubble plates. The feed line can consist of a hot and cold section, and a sufficient amount of oil from the cold section will be allowed to pass through the exchanger over each tower, governed by automatic control instruments, to maintain the desired vapor outlet temperature. Such oil passes out of these vapor heat exchangers into the hot section, and the hot section in turn leads to the residue heat exchanger before going to the feed still.

$9 Cost of Longest Call Under New LD Rates

NEW YORK, Dec. 23.—The most widely separated points of major importance in the oil industry now are able to communicate by telephone for $9 or less, following a reduction in long distance rates put into effect throughout the Bell system on Dec. 1. The rate between Boston and Los Angeles on a day station-to-station call, for example, is now $9, instead of $11.30, as under the old schedule. The corresponding night rate is $5.50.

The new rate reduction is confined to long distance service between points 400 or more miles apart, the greater the distance, the greater being the reduction. On the basis of the present use of long distance service, this decrease in the charges will save telephone users about $1,500,000 annually.

Many factors, both scientific and economic, have contributed to make this reduction possible. One of the most important factors has been the increasing volume of long distance traffic. The wholesale use to which the telephone is being daily put for the transaction of business between distant points has brought the cost per message down to a level where a substantial saving to the user can be effected.

Among the more significant reductions between important points in the oil business, the rates between Cheyenne, Wyo. and New York have been decreased from $7.20 to $6; between Tulsa and Detroit from $3.80 to $3.50; and between Santa Barbara, Cal. and Chicago from $7.95 to $6.50.

The evening rates between these points have been reduced to a level about halfway between the night rates and the new day rates. The night rates remain at approximately the previous levels.

The accompanying table lists the new daytime station-to-station rates between a number of cities of importance in the oil industry.

	New York	Chicago	Pittsburgh	Detroit	St. Louis	Boston
Cheyenne	6.00	3.75	5.00	4.50	3.50	6.25
Ft. Worth	5.25	3.50	4.50	4.25	2.60	5.75
Houston	5.25	3.75	4.50	4.25	2.80	5.75
Tulsa	4.75	2.60	3.75	3.50	1.85	5.25
Ft. Wayne	2.60	.95	1.50	.90	1.70	3.25
Los Angeles	8.75	6.25	7.50	7.25	6.00	9.00
Santa Barbara	8.75	6.50	7.75	7.25	6.00	9.25
Texarkana ..	4.75	3.00	3.75	3.50	2.00	5.25

K. C. Oil Men Elect Officers

KANSAS CITY, Dec. 22.—Roy S. Reed, of Kanotex Refining Co., was elected chairman of the Oil Men's Club of Kansas City at the Dec. 19 meeting. J. R. Battenfeld, of Battenfeld Grease & Oil Co., was elected vice-chairman; N. L. LeBlond, treasurer; and George S. Allee, secretary. Members of the board of directors are W. T. Atkins, J. R. Battenfeld, Bert Bertram, C. R. Huston, W. A. Knapp, N. L. LeBlond and Roy S. Reed.

CARS WASHED
CURTIS ROTATING LIFT
This lift is not an experiment, but a design developed and perfected by a company with nearly a third of a century of pneumatic hoist and elevator experience.

Bring them to your station with the best up-to-date equipment!

Today, motorists have learned the value of regular lubrication. The fellow who can do the best job the quickest gets most of the work, because he *satisfies customers.*

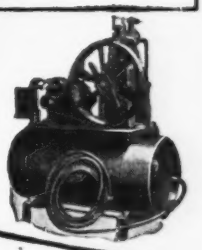
You can do a much more effective job of lubrication and complete it much faster if you raise the car on a Curtis Rotating Lift.

Why is the Curtis a Leader?

Because it is designed with the same skill—built with the same precision — that have made all Curtis equipment world-famous.

The Curtis Rotating Lift is "locked" in raised position by non-compressible oil—no air in cylinder. Both the operating valve and foot check valve must be opened to lower. A safety retard-valve also controls lowering speed even if supply pipe should break or fail—air supplied by regular station compressor. Furnished in either roll-on or free-wheel type.

Full details on these important features on request!



The Curtis Style V 2-Stage Compressor

Rotating Auto Lift, Oil-Locked. Absolute control and safety.
Style "V" Two-Stage Compressor. Air-Cooled. ¾ to 2 H. P.
Compressed Air Car Wash System. A complete cleaning service.
Hydraulic Car Washer, 1 H. P.; 2 H. P.; 2 H. P. oversize.
Air Stands. Reel type or tower type. Easy to operate.
Portable Compressor, both operated and moved by Fordson.
Paint Spray Compressor. Hand unloader. (By-Pass for starting.)
Model "A" Air Compressors. Full self-oiling. Water cooled.
Air Hoists, Cranes, Trolleys Fast, economical, speed up production.
R-1

Check items in which interested, write name and address in margin—and mail

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Pneumatic Machinery Company

St. Louis

74th Year

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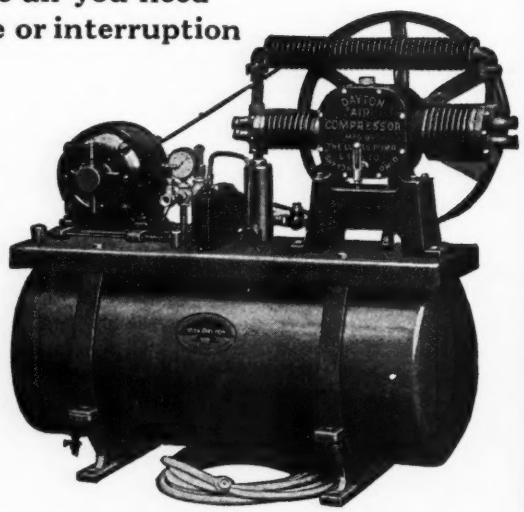
Air Economy

— Is getting all the air you need
— Without trouble or interruption
— At lowest cost

Every Dayton Air Compressor is built to meet these three points of air economy.



WHETHER your garage or filling station is large or small, there is a Dayton Compressor that will efficiently produce the amount of air you require.

Lack of trouble-making parts is an outstanding feature of the Dayton Two-Stage Compressor. Everywhere it is giving uninterrupted service.

Daytons are simple in design, and made in a factory solely devoted to air compressors. These facts guarantee not only low first cost but low operating cost as well.

You are invited to consult our engineers about your air requirements without obligation to you.

This is the G-8, largest of the "G" family. It meets maximum air demands.

2 H. P. Motor *Capacity: 8 cu.*
60 Gal. Tank *ft. per minute*

There are six other members of the "G" family, with capacities from 2¼ cubic feet up.

THE DAYTON TWO-STAGE

Air Compressor is free of troublemaking parts. It has no connecting rod or crosshead pin, no bolts or cotter pins.

Fewer parts mean less trouble and easier operation.

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by Ellis and Meigs, is a book which gives a complete survey of the field and a description of practically every process of making gasoline and most other motor fuels of promise or prominence.

The price of the book is $10. Just send us your check and we will mail a copy of it to you.

National Petroleum News, 1213 W. Third St., Cleveland, Ohio

Revised Petroleum Film Ready Soon

WASHINGTON, Dec. 26.—The Bureau of Mines and the American Petroleum Institute have completed a revision of the three reel film telling the story of Petroleum. It will be ready soon for showing. Its control will be in the hands of the experiment station of the bureau at Pittsburgh. There was a showing of it in the auditorium of the Department of the Interior a few days ago.

From the point of view of the layman probably the most interesting facts are that the reserve of gasoline, in 1926, was enough to last the public 49 days. The bureau picture shows that to store that reserve would require a tank nearly 1,000 feet in diameter and 300 feet high. When the picture showed that if the tank were pierced by a shell from an 18-inch gun it would have taken 171.5 days for the gasoline to run out of the tank, the non-technical part of the audience gasped.

Less pointed was the statement that it would have taken 13,000 miles of tank cars and 37,000 locomotives to have hauled the whole gasoline production of 1926. That appealed only to those in the audience who knew that there were fewer than 70,000 good locomotives in the country but that 13,000 miles of tank cars constituted only a little more than one half the number of freight cars in the country.

New Jobber Plans 20 Stations

STONINGTON, Conn., Dec. 20.—John A. Harvey, Jr., recently completed organization of the American Oil Co. here, to wholesale and retail Sinclair products. The company's first bulk plant is now being erected in Stonington and work will be started also on a marine terminal at Groton, Conn., to be completed by spring.

Previous to forming the new company, Mr. Harvey made a trip to the south and southwest to study and inspect various types of filling stations. He reports that the west "has it on the east" for appearance, accessibility and service of its stations.

The ideas Mr. Harvey gained from this trip will be incorporated into the 20 service stations the company will erect at New London, Norwich, Saybrook, Chesterfield and Colchester, Conn., and at Westerly, R. I.

Other officers of the company are John Carlson, vice president and treasurer, and Charles A. Ladden, secretary.

22 Private Garages Add to Profit Of Tulsa Service Station

By J. C. Chatfield
N. P. N. STAFF WRITER

TULSA, Dec. 24

THE Wilcox Oil & Gas Co. recently opened a service station in Tulsa which it is operating in conjunction with a group of individual garages. Although the new business has been in operation only about a month the operators are pleased with the excellent way in which the idea is working out.

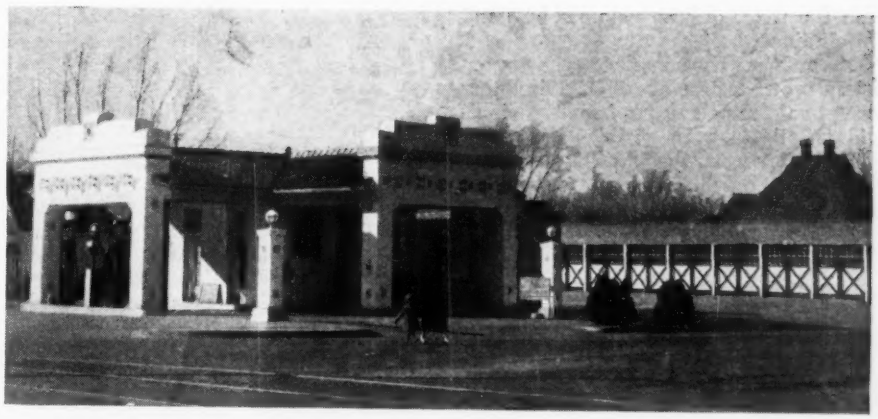
The service station proper occupies a corner site about 50 by 80 feet at the intersection of Third street and Denver avenue. Denver is a heavy traffic boulevard carrying a large part of the motor traffic from the down-town section of the city to the north side. It is the only north and south street which does not have a grade crossing of the Frisco and Katy railroad tracks at the present time. Third street is the main outlet from the city to Sand Springs and also carried heavy traffic.

It is only about three or four blocks from the station to the center of the business district in one direction and only a short distance from a number of down-town apartment buildings in another direction. The location was chosen for the dual enterprise with a view to its being handy for persons living in down-town apartments and hotels who own automobiles for business or pleasure as well as being at a strategic point to serve gasolines, oils and grease to the cars of motorists using the two main traffic arteries to the north and west of the city.

THE garage unit of the station occupies a lot fronting 100 feet on Denver avenue and with a depth of 140 feet to an alley. The corner of the lot adjacent to the filling station is given over to a combination drive which is used by filling station customers and renters of garages. An accompanying drawing taken from the plans as drawn by Architect Frank C. Walter shows the layout of the two units.

There are 22 private garages opening on the paved court which extends out to the street. Each garage has its own set of doors which may be locked by the renter. The garages are separated by woven wire partitions extending to the roof. Garages are approximately 8 feet wide by 16 feet deep.

Opening on the alley at the rear are 11 similar garages. The entrance to these is from a paved court extending in from the alley to allow plenty of room for backing and turning. Garages on the court which opens on Denver rent for $10 per month and those entered through the alley rent for $8 per month. Every garage in the plant had been rented within a few days after the opening.



General view of the new Wilcox with garages shown in the background at the right

At the rear of the large court in one corner is an auto laundry equipped with a modern heating and pumping plant for cleaning and polishing cars. Work is done in this shop under the direction of Glenn Hilford, manager of the service station.

On the opposite corner is another large shop which has been rented to a tire repair man. Since much of the business which will be done in this shop will originate with customers of the Wilcox service station and the garages the repair man will pay a fixed percentage of his income as rent for the shop.

THE garage adjunct to the filling station gave the new retail outlet a group of steady customers from the date of the opening. With the exception of two or three, every garage renter buys his gas and oil at the Wilcox station and has his car washed and greased at regular intervals. The garage renters have charge accounts at the station and pay their bills for gas, oil and service at the time they pay their garage rent. The rent, however, is collected in advance.

To the west of the service station the company has installed a hydraulic lift for greasing service. A flushing machine has been installed for cleaning transmissions and differentials as well as the usual pressure grease guns operated from the air compressor. A series of lockers are built against the south wall of the garage to house the flushing and greasing apparatus handy to the man doing work on the lift.

IN paving the court a fine sycamore tree was saved and a space was left for shrubs and flowers in front of the fence which separates the station property from a house on the back of the lot. There is room near the lift to park half a dozen cars which may be left for greasing. Fill pipes for gasoline and lubricating oils are between the hoist and the building and there is enough room allowed for a tank truck to back in without interrupting greasing service.

The station itself is built of white glazed brick inset with the red, white and blue trademark of the company. The roof is of blue tile. An outside entrance leads to a warmly heated ladies rest room which is richly carpeted, furnished with restful chairs and a full length mirror.

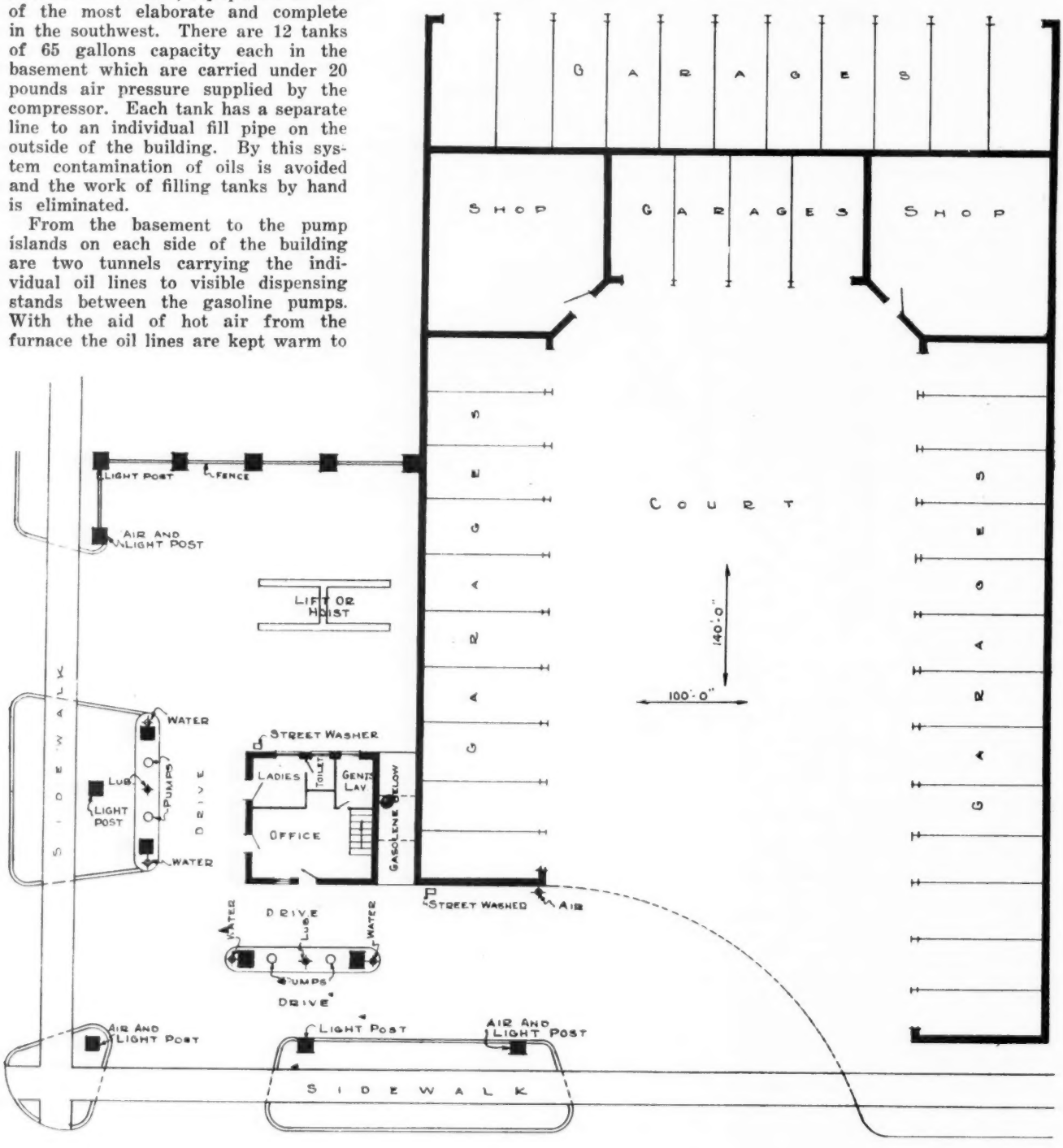
From the office a stairway leads to a 16 by 16 foot basement which houses lubricating oil supplies, the

air compressor and a hot air furnace. Employees also have locker space in the basement.

The lubricating oil storage and dispensing system using S. F. Bowser & Co. Inc., equipment is one of the most elaborate and complete in the southwest. There are 12 tanks of 65 gallons capacity each in the basement which are carried under 20 pounds air pressure supplied by the compressor. Each tank has a separate line to an individual fill pipe on the outside of the building. By this system contamination of oils is avoided and the work of filling tanks by hand is eliminated.

From the basement to the pump islands on each side of the building are two tunnels carrying the individual oil lines to visible dispensing stands between the gasoline pumps. With the aid of hot air from the furnace the oil lines are kept warm to the dispensers so that all grades of oil flow freely even in the coldest weather.

The company carries three lines of oil. A few grades which are in little demand are kept in the basement and radiator alcohol is kept in one of the pressure tanks so that it may be dispensed from the island with no delay.



Ground plan of the Wilcox Oil & Gas Co.'s new service station and private garages at Tulsa.

Green Cow, Cabbages and Gas Stations

Marcosson Has Trouble Seeing the Whole Picture in True Perspective When He Studies the Oil Industry

By Warren C. Platt, Editor

THE hardest thing in the world is to see the whole picture. And this has to do with the oil business. Your aspiring young artist paints a landscape and makes a perfectly good tree but you pick the cabbage plant under it to pieces because the green cow in the foreground won't eat it. And you may not object to the cow being green at all.

So here we are talking about the Hon. Ike Marcosson's latest story of oil in the weekly publication that issues every Saturday night (but is mailed two months beforehand) from Philadelphia. His first story of oil about the "Black Galconda" or whatever he calls us, was not so bad, but this one is a whole lot better so far as the first installment goes. However he got all gummed up and overlooked the green cow while talking about the tree and the cabbage under it. Incidentally, he got a couple of oil fields mixed up but the public won't know the difference.

The chief thing is that Marcosson talked largely, if not entirely, to those who looked at the cabbage under the tree and forgot about the cow being green. This world wide reporter who talked to Mussolini and all the rest of Europe, traveled from Philadelphia and New York to Tulsa, saw the Tulsa Petroleum Exposition —at least he said he was going to— talked to a lot of oil men who were struggling against the tide at Seminole and a few more who could not buy pipe fast enough for a few more fields. But he did not drive his car —or cars out and did not know what the oil industry was doing in getting the products of this Seminole, and other crude, into his gasoline tank wherever the tank might be.

Marcosson saw all our derricks, he got a squint at a seismograph and torsion balance, some one told him about a cracking chamber and he got a lot of statistics but he got only a fleeting glimpse of a lot of service stations. And, just because he didn't get a "coke" at all the soda stands enroute, he thought the service stations were just useless scenery put up by ambitious but foolish oil companies to help make a deficit.

Waste? What About the Yardstick?

Some one else also told him about blowing gas out of oil wells, so he lumped the whole business together and called it all "waste."

Marcosson, able a writer though he is, overlooked the fact that the word waste is only relative. If we are to compare the late Mr. Drake's standards to those of the oil industry today, we would be unanimous in condemning Drake as the most wasteful man in the oil world. He not only wasted gas but he wasted more energy, more horse power, more heat, more steam, and more money than any one ever thought of. Looking at it from a standpoint of our present efficiency, Drake was not a benefactor at all in discovering oil, he simply was a waster who should have been "regulated" until he would not have drilled that well of his back there near Titusville.

But, if we may be allowed to offer some testimony in defense of Drake he no longer being present or represented by lawyers, he undoubtedly used all the steam, money and power he could get his hands on, for he was broke when he drilled in his well. If you were to look around the world at that time Drake was highly efficient. He used the best that he had or the best he knew of to get. So did the rest of the business and professional world.

From that time since the oil industry has been improving on Drake's methods, or cutting down Drake's waste, whichever way you will have it. So have all other people in their particular endeavors. The oil industry of tomorrow will have improved on that of today. So will steel, electricity, law, medicine and even the religious workers—we hope.

IN MARCOSSON'S first article in that Philadelphia publication he seems to have overlooked some of this idea.

More Stations the Merrier for Mr. Car Owner

One of the things he bore down on rather heavily and which a number of oil men who have not seen the whole picture have also, is the number of gasoline service stations. Marcosson has his figure too high, but anyway, he talks about the "terrible waste" of them or words to that effect, just as he invieghs against alleged gas waste in oil fields. He overlooks the human equation in the matter. He also overlooks a fundamental theory of plain economics and that is that the more people you have striving for business the lower the price will be.

He takes the open published prices as that at which gasoline is actually being sold to the public. He evidently was not told about the "quantity discount agreement" of the Standard of Indiana territory, nor of the coupon books, nor the special prices to truck fleet owners, nor all the rest of the price cutting by which the oil industry is getting business. The average price of a gallon of gasoline is anything but the published tank wagon or service station price. What that average is no one knows. It would take an army of accountants to get. But it is there.

HE ALSO overlooked a lot of factors as regards service stations. Just as a lot of oil men have overlooked those factors. To every man in any line of business there are too many people in that business. Talk to the ministers and they will tell you salvation can be put out with a lot fewer churches, especially of the other denomination. Talk to the doctors and you will find that there are more than enough to operate on all the sick. The lawyers ane most positive they could get along with less. The drug store owners, the grocery men, hardware men, garage men, automobile owners etc. ad libitum will all tell you how they don't need the man around on the next corner at all. And if a lot of people are to be believed there are even too many kings in this world.

So, we have too many service stations, but what of it?

There are just two ways to have less, one is to have a price with so little profit in it that only the 110 per cent efficient can live and the other way is to have the government issue licenses for each station. The same is true of any walk of life. If you want fewer lawyers let them accumulate so each will get only $2.50 a day or let the government figure out the market and issue licenses only to the number which will permit those in business to earn, or receive, $100 a day.

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Civilization, as we know it, was founded on individual initiative and

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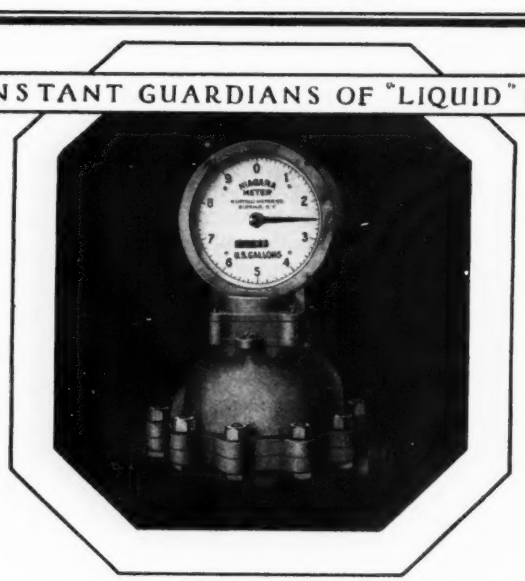

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the private operation of private capital. If you look back over history you will find that all the big things of this world came from individual initiative, whether industrial, religious or political. Individual initiative will solve the filling station business, in fact is solving it, just as it is solving the matter of grocery, hardware, drug and all other, lines of commercial activity. Just as it is solving the professional pursuits and religions.

But in addition to all these there are a lot of other factors that people go wrong on in regard to service stations. They overlook the fact that stations were built when they were built with the best knowledge that the individual had at the moment as to the best way to get a profit. He would not have put up that steenth station if he thought he would not get a profit from it. He did the best he could at the moment with the information he had at hand. If the information was faulty that was the oil industry's fault primarily. But perhaps the industry as a whole had no better knowledge? Perhaps one man or company thought he had more ability than another and could get business away from another so he put in more stations than the normal growth of business in a district would ordinarily warrant if the business were apportioned share and share alike. The small marketers have by no means been the only ones at fault here, if fault it is.

Then we have property restrictions, traffic lanes and a lot of other things which effect the picture of service stations. All of which goes to show that before one judges as to anything, including service stations, one must get down to the individual unit and find out why it exists, what are the reasons back of it and then perhaps one will wind up by praising that individual unit.

So maybe we should not judge all of Mr. Marcosson's articles until they are printed and we have examined each one of them, even though he has skipped rather blithely over quite a bit of the oil industry without seeing it in the first article.

At all events, we should get some cheer that Marcosson's stuff is better that most written about the business and perhaps, as his story goes along, it will be the best ever. Let us hope so.

TULSA, Dec. 23.—O. S. Ambrose, assistant to A. F. Garrett, vice president and general manager of the Tidal Refining Co., will leave Tulsa for New York city about Jan. 1. He has been made an executive assistant in the general offices of the Tide Water Oil Co. In his new position he will be associated with J. B. Deacon, assistant to the president, and will deal primarily with manufacturing problems.

M. C. Henderson Elected Head Of Montana Oil Group

GREAT FALLS, Dec. 27

ADDRESSES on tankage problems and conservation, lubricating oils, taxation, oil and the railroads, and on oil possibilities in Montana were given at the convention of the Montana chapter of the Rocky Mountain Oil & Gas Association at Great Falls, Dec. 9 and 10. M. C. Henderson, manager for Fred G. Clark Co., was elected president of the chapter.

Conservation of crude oil was discussed by W. H. Price, district manager at Casper of Black, Sivalls & Bryson. He told of the wooden and sheet iron tanks in early oil fields and of copper alloyed steel which came in about 1916 in Kansas fields. The big advance in tanks came in 1919, he said, when producers began taking up conservation on a big scale.

"The steel tank is easy to make gas tight and storage tanks nowadays generally are built gas tight," he said. "The beginning of the gas tight tank was one with the decks packed in the joints and bolted down.

"There soon appeared a tank that has every feature to hold evaporation loss to a minimum, a tank with reinforced bottom, side wall and deck, which was cut into angular sheets with reinforced seams to make a higher pitch and make better joints possible.

This tank was equipped with a pressure valve set at one pound, which was 24,960 pounds pressure on the deck of a 250-barrel tank and 52,520 on a low 500 or 1,000-barrel tank. A pressure relief valve at 4½ ounces would be equal to 7,020 pounds on the deck of a 250-barrel tank or 14,715 pounds on a low 500-barrel tank. The first noticeable savings in this tank was the further reduction of evaporation losses over the gas tight tank.

"The vapor pressure tank reduced the possibility of fire loss to almost nothing. All gases are kept from exposure to fire, and if ignited will burn only from the valve."

Another saving on the vapor pressure tank, given by Mr. Price is in holding the lighter ends since purchasing companys buy on a gravity basis.

The vapor pressure tank has been found desirable in flush product, he said, as there is possibility of back pressure resulting in stoppage of natural flow with an unvented tank.

F. R. Staley, chief chemist of the Texas Pacific Coal & Oil Co. at Fort Worth, spoke on lubricating oils, discussing the various tests, and the blending of neutral and cylinder stocks. The oil industry in Montana

M. C. HENDERSON

was taxed heavier than in other states said O. A. Bergeson, former member of the Montana Tax Commission, in his address on taxation.

Oil possibilities in Montana were discussed by Ralph Arnold, Los Angeles geologist; and railroads and the oil industry by F. G. Dorety, vice-president of the Great Northern and O. P. Kellogg, assistant general freight agent of the Chicago, Milwaukee and St. Paul. "Lime and Sand Production" was the subject of V. E. Wilhelm, geologist, California Petroleum Corp., Los Angeles. "The Sweetgrass Hills Area of Montana," was the subject of Major G. G. Howard, geologist of the Sunburst Oil & Refining Co., Shelby. C. A. Rasmussen, internal revenue collector at Helena, talked on "Settling with Uncle Sam". J. W. Speer, former state senator and attorney, talked on "The Conservation Bugaboo" from the legal standpoint. "The Synthetic Relation of Man to the Petroleum Geologist" was the subject of W. W. Gail, Billings.

M. C. Henderson, manager for the Fred G. Clark Co. was elected president, succeeding L. B. O'Neil, vice-president of the California Petroleum Co. La Rue Smith, of Great Falls, and C. H. Brown, Lewiston, were re-elected vice-presidents. A. E. O'Brien of Lewistown, and John O'Neil of Sunburst, were other vice-presidents elected.

Walter F. Brittan, of Great Falls was re-elected secretary, and T. B.

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YOU can! If the crude tanks are first cleaned with Oakite materials and methods.

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METAL HOSE & TUBING CO.
INCORPORATED
236 Tillary Street
BROOKLYN, N.Y.

Campbell, of Great Falls, was elected treasurer. By-laws were amended to have 16 directors in place of 12. With the exception of R. J. Coughlin, who wished to resign, all directors were re-elected. They are La Rue Smith, A. E. O'Brien, C. H. Brown, M. C. Henderson, E. B. Coolidge, W. E. Rice, O. I. DeSchon, Donald Campbell, C. W. Hart, Henry Sample, L. B. O'Neil. New directors are L. F. Sonntag, L. R. Hannah, Grover C. Stevenson, H. B. Chessher and James A. Johnson.

Cadillac Advises Thinning Oil With Kerosene in Winter

Staff Special
CHICAGO, Dec. 24

CADILLAC MOTOR CAR CO. is recommending to owners of Cadillac and La Salle cars that they use heavy Pennsylvania oil in their crank cases in winter as well as in summer and that they thin it out with kerosene if they have trouble in starting. Recommendations sent out to their owners by the Chicago branch of the Cadillac company a few days before Christmas set the oil men to discussing the matter with much interest.

It is emphasized by Cadillac dealers that they do not recommend thinning out the oil in cars that are driven hard every day. The hard driver, it is said, has little starting trouble. It is for the man who drives his car down to work in the morning and home at night, never heating it up. For such, the announcement reads:

Is the Lubrication of Your Cadillac or La Salle Adjusted to Winter Requirements?

"Cadillac engineers recommend that in winter you use the regular summer oil approved by them, in preference to a lighter oil. This is because running conditions within the engine are the same summer and winter and require a lubricant of the same specifications regardless of atmospheric conditions. To insure free cranking of the engine in cold weather the engine oil should be thinned with kerosene.

"Therefore, to prepare for cold weather, if you are using oil recommended by us, kerosene should be added in the following proportions, according to the temperature expected:

"Between 40 and 25 degrees above zero, 1 quart of kerosene and 7 quarts of oil.

"Between 25 and 10 degrees above zero, 2 quarts of kerosene and 6 quarts of oil.

"Between 10 degrees above and 10 below zero 3 quarts of kerosene and 5 quarts of oil.

"If your car is on our oil and grease schedule, the thinning of the motor oil will be taken care of by us. After adding kerosene the first time it is unnecessary to do so again until the oil is changed unless you should take a long, hard drive. In that event we advise that you visit a Cadillac-La Salle service station to have the proportion of oil and kerosene properly adjusted.

"The lubricant in the transmission, differential and fan of your car should also be thinned for winter conditions."

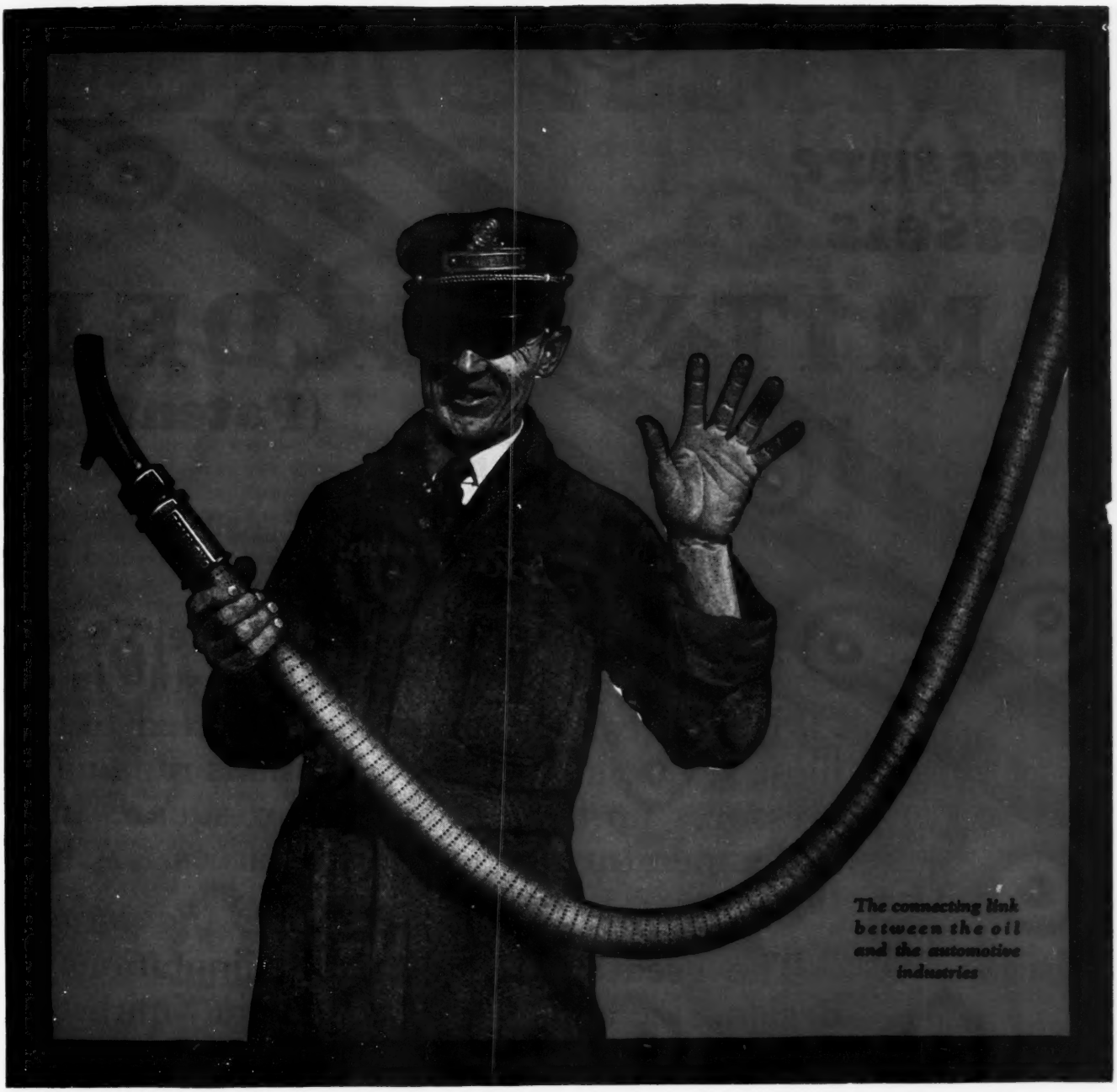
Evidently the Cadillac engineers believe that it is more politic to meet the needs of the man who drives his car moderately by telling him to put kerosene into his heavy oil than it is to tell him to use a lighter oil. Some dealers last winter were recommending the use of kerosene as a thinner to make starting easier but general recommendations from the home office in Detroit have just come out.

Wisconsin Tries to Keep Snow Off Roads

CHICAGO, Dec. 24.—Wisconsin is actively carrying on a campaign to keep the roads open this winter. Not infrequently in winter Wisconsin roads are so blocked with snow that motor transportation is paralized and sleigh bells jingle, as in "the gay 90's."

The condition is particularly annoying to oil men. Customers with depleted tanks often urge them to take chances with tank trucks that no heavy vehicle should take. This usually happens in the spring in sections which have consumed very little gasoline during the winter. The oil men naturally hope the state will carry through on the plan to keep roads open, especially the trunk highways and paved roads.

The recent issue of the Thunder Bird, official organ of the Wisconsin Independent Oil Jobbers Association, predicted that at least 7,500 miles of road in Wisconsin would be kept open all winter. The Thunder Bird insinuated that the political executives had an eye on the gasoline tax money they would lose by blocked roads, but pointed out that the oil men had much to gain also.



"There's nothing like Triplexd!"

THAT remark applies to more than the mere physical construction of the hose.

It applies particularly to the Triplexd Insurance now in force for 1000 Days on every pump you own or operate—to which Triplexd Registered Insured Gasoline Hose* is attached.

Full information on request, without cost or obligation.

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Triplexd Registered Insured Gasoline Hose is any length of Triplexd Filling Station Pump Hose ¾", 1", or 1¼" inside diameter, and not more than 15 feet long, shipped from our Brooklyn Factory on or after June 1, 1927

SMITHSTEEL

Pressure Vessels are SMITHWELDED (Patented)

More than 500 Smithsteel Vessels are operating as cracking stills in oil refineries. Each unit is subjected to the most severe and varied conditions ranging in pressures up to 600 pounds per square inch at temperatures up to 900 degrees. All of them are *SMITHWELDED (Patented)*

The greater freedom from limitations of design, size and shape secured in Smithsteel Pressure Vessels for all phases of oil cracking is due to the process of fabrication, that is, SMITHWELDING.

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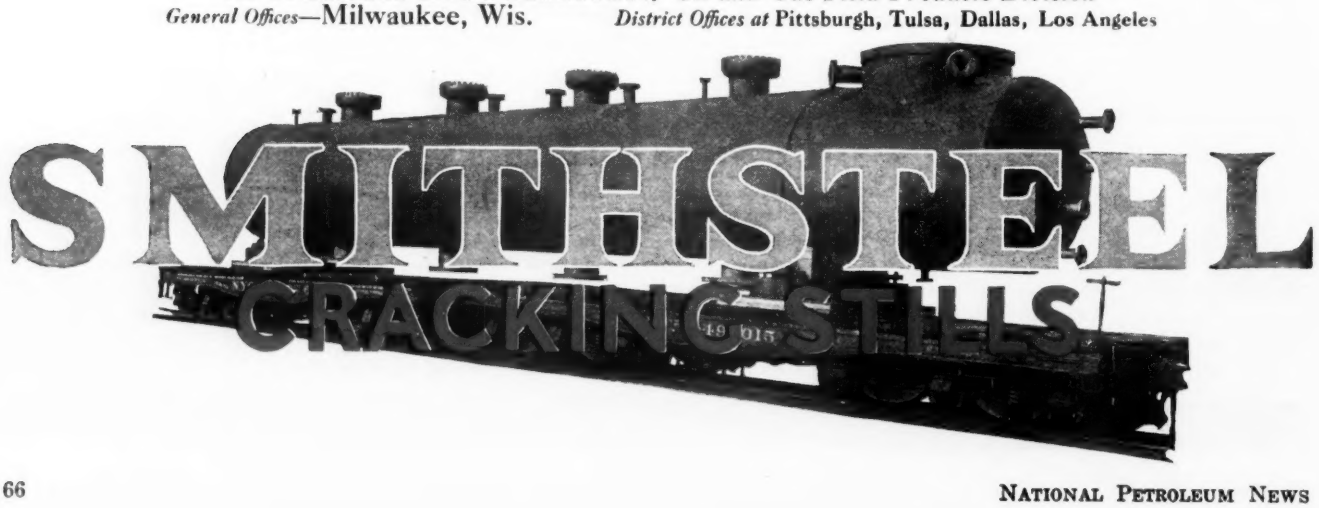


Visiting Around the Refineries

By Paul Truesdell

National Petroleum News

Another Step in Contact Filtration

FILING of a suit to determine the status of the patents on contact filtering brings this process again into the eye of refiners. Contact filtering had been somewhat eclipsed lately, in most minds by the widespread adoption of the multiple hearth clay-roasting furnace for the coarser sizes; also by developments in vapor phase cracking and so forth.

The contact process has not been standing still, however. Word comes that The Texas Co., through Max B. Miller & Co., Inc., has taken a license under the patents owned by the Contact Filtration Co., an organization formed as a holding company for patents of the Standard of California and General Petroleum Corp. (Standard of New York). It is stated that The Texas Co. is building a contact filtering plant at its Port Arthur refinery to use both the pulp method and the high-powered dry-clay method.

It seems that development of some method for regenerating the fine clay so it can be used more than once is important and it is understood that work is being done on this problem.

The Texas Pacific Coal & Oil Co. has been using the contact filtering process for a year or two at its refinery at Fort Worth, running on Ranger crude. Dr. E. R. Lederer, vice president of the company and in charge of refinery operations, told me at the A. P. I. meeting in Chicago that he is very well pleased with it. He is now using only a fraction of the amount of clay per barrel he used when he started and he gets a better color.

He has done a lot of work on it. He told me his laboratory has tested, I think it was, around 170 different clays seeking to find the most efficient possible. He is still at it.

More Needless Accidents

THE November issue of The Look Box, organ of The Texas Co. refining department, lists eight recent accidents in the company's refineries that caused workers misery and loss of time. We pass these along because each of these mishaps could have been avoided by even a little thought.

Employe strained himself by lifting a large sample box containing 32 quarts of lubricating oil. Losing time because of hernia.

Man lifted one end of 200-pound concrete form in the wrong manner. Now losing time because of a strained back.

Veteran employe breaking brick out of a boiler furnace with a hammer. No goggles. Piece of brick struck him in eye and he may lose sight of it.

Employe carrying a bucket of dope inside a tank, stumbled and fell, breaking his arm.

Man standing on a ladder in a shop. Traveling crane came by, crushing him against the wall.

Man working in an elevated water box dropped an 8-pound hammer over the side, striking a fellow workman on the head, cutting deep gash.

Welder preparing to weld inside a bubble tower. Gas in tower ignited, burning the man so badly he lost 11 days from work.

Man threw down a piece of steel in the yard, striking another piece of steel which flew up and cut his head. No lost time.

Treating Vapor Phase Cracked Gasoline

IT SEEMS likely that the process of treating cracked distillate with sulfuric acid at temperatures around zero, Fahr., described by Ralph Halloran of the Standard of California at the Institute meeting, is likely to have an important effect on the successful and economical production of vapor phase fuel.

As is well known, one of the most difficult problems in connection with vapor phase cracking has been treating the fuel to bring it to a safe gum percentage without too heavy losses. Fullers earth seems capable of doing this, in some cases at least, but the cold acid method which Mr. Halloran said has been successfully tried on vapor phase distillate, offers another possible opportunity.

And his method, presumably takes out the sulfur which the fullers earth method is not always successful in doing. Whether the Standard will permit its use by other companies is not announced.

Opportunities in Refinery Technology

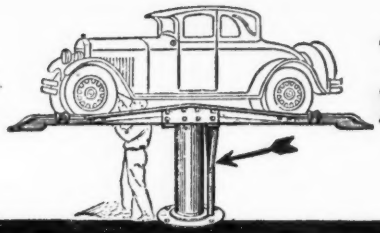
WHEN I was talking the other day with a technologist high in the organization of one of the most efficient refining companies in the country, he stated that he thought the three phases of the business where the largest immediate improvements are yet to be made are in fractionation, in combustion and in development of new and useful by-products, synthetic or direct, from those fractions that are now lost or used as fuel.

He stated his opinion that fractionation, as far as the lighter products are concerned, is very good now. He looks for improvement in a better separation of the heavier fractions. Combustion includes all phases of burning fuel more efficiently, getting more of the heat units into the oil, and furnace design. He sees no reason why refinery practice should not equal boiler practice and it doubtless will when as many brains have sweated over the problem as have been concentrated on boiler practice problems.

Refinery Engineers in Europe

OIL NEWS of London notes the arrival at the Mayfair hotel in the British capital of H. G. Schneider and H. D. McCament, engineers of C. F. Braun & Co., Los Angeles. Mr. Schneider will make a tour of inspection of plants using Braun equipment; cooling towers, heat exchangers, skimming plants and so on in all parts of the world, while Mr. McCament will stay in London for several months to consult with British customers of his company.

"Quick Service"



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Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

RED AND PALE PARAFFINE OILS

New Patents

Dec. 13

REFINING

Process for Converting Petroleum Oils—Carbon P. Dubbs, Wilmette, Ill., assignor to Universal Oil Products Co., Chicago, Ill. Filed Feb. 16, 1922. No. 1,652,166.

Process of Treating Hydrocarbon Oils—Carbon P. Dubbs, Wilmette, Ill., assignor to Universal Oil Products Co., Chicago, Ill. Filed Jan. 2, 1918. No. 1,652,167.

Apparatus for Drawing off Gases and Liquids from Pressure Systems—Lyman C. Huff, Chicago, Ill., assignor to Universal Oil Products Co., Chicago, Ill. Filed Aug. 16, 1923.

Method and Apparatus for Cracking Oils—William Brink, Henryetta, Okla. Filed March 3, 1925. No. 1,652,344.

Method and Apparatus for Treating Hydrocarbons—Charles S. Corning, Rockford, Ill., assignor to Warren S. Corning, Chicago, Ill. Filed Sept. 8, 1923. No. 1,652,394.

Method of and Apparatus for Treating One Fluid by Another—Samuel J. Dickey, Los Angeles, Calif., assignor to General Petroleum Corp. of California. Filed Jan. 16, 1923.

Guide for Excavating Devices—Harold L. Bolton, Brookline, Mass., assignor to Beacon Oil Co., Boston, Mass. Filed Jan. 18, 1927.

Apparatus for Treating Hydrocarbons and Other Materials—David E. De Lape, Los Angeles, Calif. Filed May 7, 1921. No. 1,652,563.

Process and Apparatus for Fractionating Hydrocarbon Oils—John C. Black, Destrehan, La. Filed April 5, 1923. No. 1,652,886.

PRODUCTION

Roller Bit—Clinton H. M. Bull, Houston, Tex., assignor to Reed Roller Bit Co., Houston, Tex. Filed June 2, 1927. No. 1,652,297.

Headache-Post Control for Electric Oil Well Equipment—John H. Le Grand, Eldorado, Kans. Filed Jan. 3, 1927. No. 1,652,311.

Roller-Cutter Mounting—William L. Childs, Houston, Tex., assignor to Reed Roller Bit Co., Houston, Tex. Filed April 2, 1927. No. 1,652,348.

Cement-Dumping Bucket—Walter W. Lewis and John R. Suman, Houston, Tex. Filed Aug. 3, 1926. No. 1,652,369.

Coupling for Suspended Shaft Casings—Mahlon E. Layne, Houston, Tex., assignor to Layne & Bowler Corp., Los Angeles, Calif. Filed June 9, 1924. No. 1,652,368.

Oil Well Tester and Sampler for Determining Point of Fluid Entry—Weldon C. Erwin, Yorba, Linda and Cecil H. Sweet, Brea, Calif. Filed Jan. 10, 1927. No. 1,652,472.

Oil-Well Apparatus—George D. Watson, Torrance, and Herbert E. Grau, Los Angeles, Calif. Filed July 17, 1924. No. 1,652,650.

Luther Sorensen, Whittier, Calif. Filed March 9, 1927. No. 1,652,744.

MISCELLANEOUS

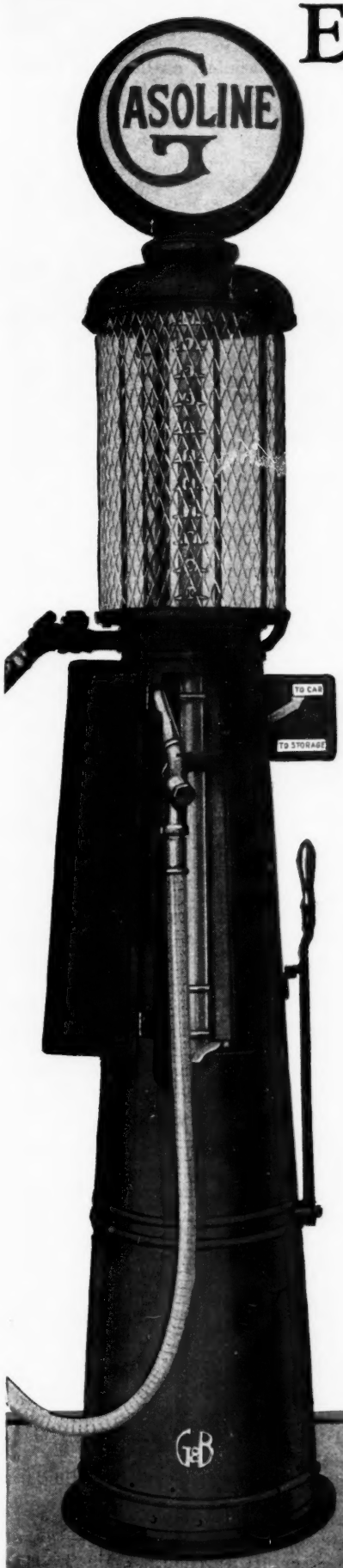
Process of Manufacturing Tetra-Ethyl Lead—William S. Calcott, Penns Grove, and Fredrick L. English, Carneys Point, N. J., assignors to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Nov. 4, 1925. No. 1,652,812.

Oil-Pumping Apparatus—Harvey J. Wheeler and Gunnar C. Engstrand, Brooklyn, New York, assignors to Salvage Process Corp., New York. Filed April 17, 1926. No. 1,652,968.

P. & R. Active in Leasing

TULSA, Dec. 23.—Producers & Refiners Corp. is again becoming active in leasing in the Mid-Continent field. This subsidiary of the Prairie Oil & Gas Co. will soon open a land department office in Tulsa. In partnership with C. B. Peters, the P. & R. bought several tracts at the Osage sale on Dec. 12.

Examine, *then compare!*



Before you buy your next visible, it will pay you to investigate G. & B. Model T-176 for control at the nozzle, also Model T-179 for mechanical discharge. Note carefully the following features:—

NULTRA Glass Cylinder:

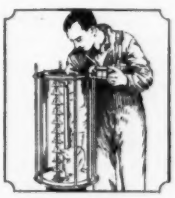
This special glass bowl prevents discoloration and keeps gasoline water-white. It also prevents colored gasolines from fading. By bringing out the natural brilliance and sparkle of *any* gasoline, NULTRA makes your product good to look at and easier to sell. The NULTRA bowl is exclusive G. & B. equipment and will be furnished when so specified at no extra cost.

Semaphore Signal:

The semaphore signal on the side of Gilbert & Barker visible pumps tells where the gasoline is going, "To Car" or "To Storage." It is interlocked with the pump mechanism so that when the drain valve is open the semaphore arrow points "To Storage." This feature emphasizes the dependability of your service. It is approved by sealing authorities and appreciated by the public.

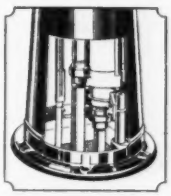
Fast Dependable Pumping Unit:

Each Gilbert & Barker pumping unit is built to give real service. It is fast, very easy to operate and seldom needs attention. One of these pumps in a test run pumped 500,000 gallons of gasoline without requiring any attention whatever. It was taken down, examined, and as no signs of wear were apparent, it was reassembled and continued on test.



Easy to Clean Cylinder:

With constant use and exposure even the best of glass cylinders gets dirty and requires cleaning. With some pumps cleaning the cylinder is a long job for an expert mechanic, but with Gilbert & Barker pumps anyone can do it in ten or fifteen minutes. In fact it is so easy you won't mind doing it often.



Easy to Install:

A pump that is easy to install saves time and money for its owner. Gilbert & Barker visible pumps have a door at the base which can be quickly removed, giving easy access to the connecting unions so that installation can be finished in the quickest time and with very little trouble.

Ample Advertising Space:

Advertising space for your trade mark is a thing that gives a gasoline pump sales value. Gilbert & Barker pumps offer plenty of space for attractively displaying your trade mark and in addition they can be adapted very nicely to your individual needs as to color scheme, assuring maximum recognition for your products wherever they are distributed.

GILBERT AND BARKER MANUFACTURING COMPANY
PUMPS AND TANKS FOR THE OIL TRADE
SPRINGFIELD MASS. U.S.A.

Our Industry — A Page of Facts and Personalities

National Petroleum News

By Paul Wagner

JUVENILE safety contests conducted in the McCamey district are bearing fruit for the Marland Oil Co. of Texas, according to J. E. Williams of Fort Worth, who is in general charge of the campaign.

Children are encouraged to develop safety thoughts and illustrate them, competing for nominal prizes awarded at intervals. Parents assisting their children in the contests absorb safety thoughts, according to Mr. Williams, and the movement gains further impetus in this way.

* * *

LOUIS T. DUGGER, long identified with Huasteca Petroleum Co. operations in Mexico and more recently of Caracas, Venezuela, returned to San Marcos, Texas, early in December for a visit to homefolks. He is authority for the statement that Venezuela has vast producing potentialities and that increased yields may be expected in 1928. Mr. Dugger is a graduate of the law department of the University of Texas, at Austin.

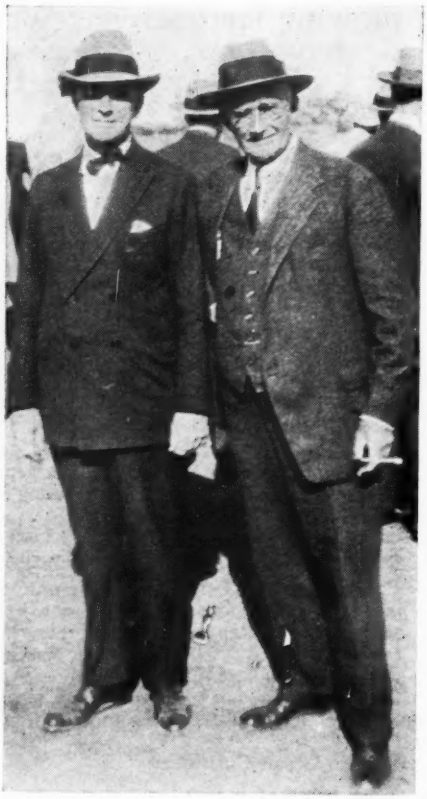
* * *

B. E. MOREHART, district manager at Cisco, Tex., of the Frick-Reid Supply Co., tells a story of the Panhandle region that is peculiarly appropriate since the southerly migration of winter winds. Two men were talking on an Amarillo street corner when one of them spied an individual chasing his hat. "There must be a stranger in town," he remarked. "Why?" queried the other. "He'd never run after his hat if he was an old-timer," came the reply, "he'd simply stand a few minutes until another came by."

Mr. Morehart, who had been in ill health for a number of months, has recently returned home from Rochester, Minn., greatly improved in condition.

* * *

WM. O'CONNOR, secretary-treasurer of the Atlantic Refining Co., Philadelphia, has returned home after an inspection trip to west Texas, where he went over properties of the subsidiary Atlantic Oil Producing Co. and the West Texas Pipeline Co. The Atlantic is an important producer in the University pool and Winkler county areas. The West Texas pipeline, now under construction, extends from the Hendricks field, Winkler county, 71 miles to Midland, where it will deliver crude to the Magnolia Petroleum Co., under contract arrangements.



J. ROBY PENN AND J. EDGAR PEW

TWO war horses of the southwestern petroleum industry are shown in the accompanying snapshot. J. Roby Penn, at the left, is chairman of the executive committee of the Texas Pacific Coal & Oil Co., Fort Worth, and J. Edgar Pew, right, is vice president and general manager of producing interests of the Sun Oil Co., Dallas.

Before assuming the presidency of the Texas Pacific, which post he held before becoming chairman of the executive committee, Mr. Penn was in executive charge of Midwest Refining Co. operations in Rocky Mountain territory, with headquarters at Casper, Wyoming.

Mr. Pew, who is a past president of the American Petroleum institute and widely known as a leader in southwestern producing affairs, is the executive head of the Venezuelan Sun Oil Co., subsidiary of the American parent organization.

* * *

SEEN on the golf links at Rivercrest Country club, Fort Worth: Clarence E. Hyde, geological director of Marland Oil Co. of Texas, trying to duplicate his recent success in achieving a "hole in one." No argument about it; "Eddie," as his close friends know him, produces the record, attested by three reputable players.

* * *

H. J. STITH, formerly an assistant in the Tulsa purchasing department of Roxana Petroleum Corp., has been transferred to McCamey, Texas, in connection with equipment buying for the Shell Pipeline Corp., which is building from the Crane-Upton and Winkler counties development areas to connection with its Mid-Continent system in the Healdton, Okla., district. The Shell Pipeline Corp. was recently organized to succeed the Ozark Pipeline Co., under which name operations were previously carried on in the Mid-Continent.

* * *

C. L. JACKSON is in charge of the new west Texas division recently established at Midland by the Tidal Oil Co. of Texas. New Mexico territory also will be handled through the Midland office.

* * *

CHARLES PISHNEY, recently identified with Carter Oil Co., at Tulsa, as statistician and decline curve analyst, has accepted a position with Marland Oil Co. of Texas, at Forth Worth, where he will be engaged in valuation work. Mrs. Pishney, who was Miss Corinne Baker before her marriage last July, was for six years soprano soloist at the First Presbyterian church, Tulsa, and for three years librarian in the technical department of the Tulsa public library.

* * *

S. F. SHAW, consulting air-gas lift engineer in the Seminole, Okla., district for Carter Oil Co., is now on a trip to South America, where he is investigating development conditions.

* * *

ROSS CRIBBS succeeds R. L. Dunkin as machine shop superintendent for the Magnolia Petroleum Co., at Shreveport, La. He was formerly in the Iatan, Texas, district, where he was succeeded by M. L. Ekas. Gus F. Jesse, formerly Earlsboro warehouseman under Superintendent J. W. Tipton, has been transferred to Graham, Okla., under Superintendent D. L. Dunn.

* * *

SUPERINTENDENT E. D. HOLCOMB of Fortuna Oil Co., Magnolia subsidiary at Shreveport, announces the transfer of Burl Sullivan from Harmon, La., where he was chief clerk under Superintendent J. B. Wells. Sullivan is now in charge of the general warehouse. He is succeeded at Harmon by Thomas M. Preslar.

"2030 BEST WISHES"

SINCERELY appreciative of the part your friendly patronage has played in our progress—we extend our best wishes —with the hope that the coming year may be smooth sailing for you.

2030 Employes of the

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Main Office and Plant — Houston, Texas

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Oklahoma City, Okla.

Export Office
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The manufacture and sale of Ford Non-Chatter Oil is *covered by a patent* (the Sorensen Patent). Do you know whether or not you are infringing this?

We can *protect* you against infringement, by showing you how to make the finest NON-CHATTER FORD OIL with full protection under the Sorensen Patent. Send for full information.

NATIONAL OIL PRODUCTS CO.

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CHICAGO BOSTON CHARLOTTE

GRANBERG PETROLEUM METERS

Are Precision Instruments of Established Merit.

They are extensively used on Tank Trucks, Truck Loading Racks and Tank Car Unloading Lines and are universally satisfactory wherever it is desirable to secure accurate measurements.

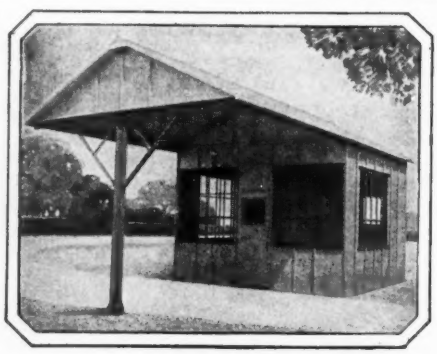
We have made a technical and practical study of the problem of accurately measuring petroleum oils and are prepared to give expert advice and assistance on the subject.

Engineers from our home office are permanently located in the Middle West and on the Atlantic Coast, for the purpose of helping our customers with their metering problems.

It will pay you to use our meters and profit by our knowledge and experience.

ASSOCIATED SUPPLY COMPANY

79 New Montgomery St. —*Meter Department*— San Francisco, Calif.



Marion Metal Buildings

with interlocking joints are light, strong, and easily erected.

Send for Catalog No. 7

MARION MACHINE, FOUNDRY & SUPPLY CO.

BOX T685 MARION, INDIANA, U. S. A.

New Equipment

American Cable Co. announces four new distributors of Crescent and Tru-Lay wire lines at strategic points in Mid-Continent oil fields. They are Atlas Supply Co., Muskogee, Fort Worth; Marion Machine, Foundry & Supply Co., Tulsa; Farley Machine Works Co., Arkansas City; Mid-Continent Supply Co., Houston. In addition sales representatives are in Tulsa, where the Mid-Continent district office is, and at Ponca City and Fort Worth. Distributor's stocking points are in practically all oil fields in Kansas, Oklahoma, Texas, New Mexico, Louisiana and Arkansas. The company recently published a handbook on "The Application of Wire Rope to Oil Field Equipment"; copies may be obtained from the company at 105 Hudson st., New York city.

* * *

The Nugent Steel Castings Co., Chicago, announces the appointment of Van Cortright Mekeel, formerly special research investigator, mechanical and sales engineer for the Taylor-Wharton Iron & Steel Co., High Bridge, N. J., as special representative.

* * *

Butler Mfg. Co., Kansas City, Mo., and Minneapolis, Minn., has sent out a bulletin on the Butler filter for removing impurities from gasoline, such as scale, sand and water, which accumulate when gasoline is being pumped under pressure from tank cars to storage tanks. It is recommended for use particularly at gasoline storage plants.

The filter is 78 inches high, is made of heavy steel and is easy to operate. It is equipped with a hand hole at the bottom for sediment cleanout.

Pipeline and carburetor trouble in an automobile is eliminated with the use of this filter, the company claims.

* * *

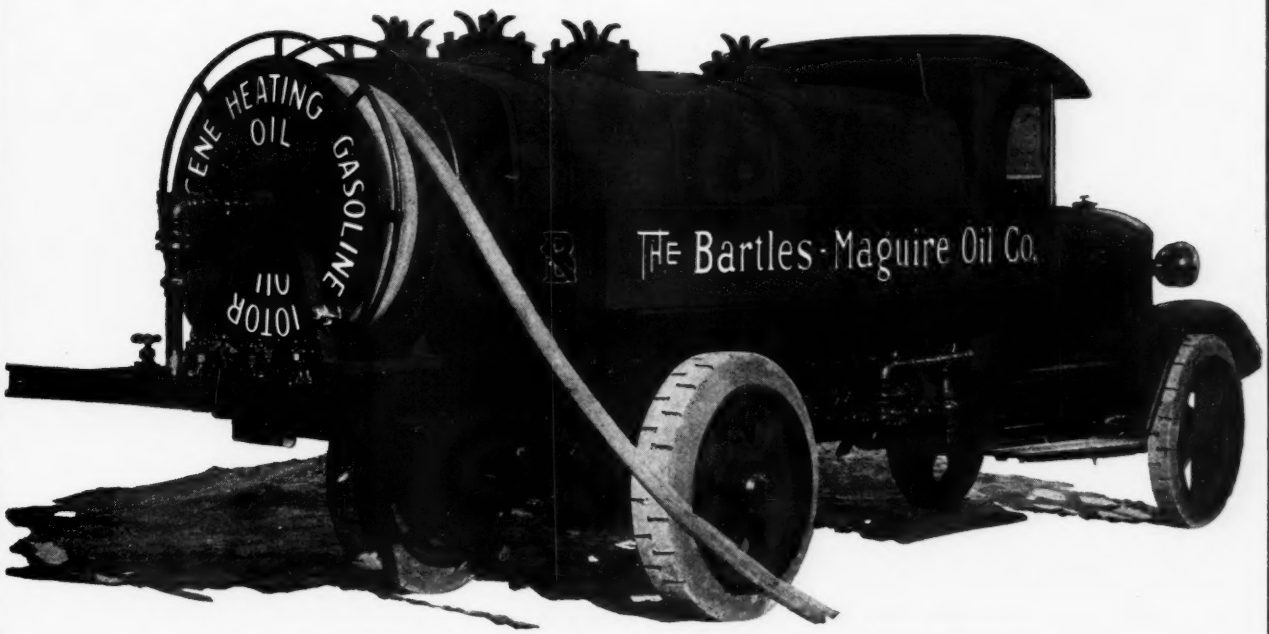
Joseph Reid Gas Engine Co., Oil City, Pa., has added a new gas engine to its line of oil field machinery. The new device is known as type C. It is an enclosed type, two-cycle gas engine built to exclude dust or sand which might be in the air where the engine is installed. It is made in two sizes, 40 and 45 h. p.

Principal features of this type are enclosed bed plate; splash lubrication for the crank shaft, connecting rod, cross-head and cross-head pin bearings; bored cross-head guide; replaceable, steel-backed, babbitt-lined main bearings; new governor of Reid design, enclosed and running in a bath of oil; and new intake valve on the top of the cylinder.

Bulletin 37 gives further particulars about this type of engine.

Heil "Double Duty" Fuel Oil Tanker

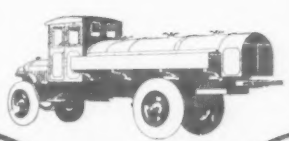
Serves Your Customers — — Advertises Your Products



Newest Improved Heil Fuel Oil Delivery Unit Mounted on 163" W. B. GMC Truck Model K-54

Do You Know

That Heil pioneered in the building of steel welded truck tanks and has maintained progressive leadership in the industry for more than 20 years. The first tanks had no compartments and were mounted on wagons. Heil Fuel Oil Tankers, the latest development, are engineered to keep down delivery costs and permit maximum profits. The Heil 2-inch pump unit will unload 100 gallons of fuel oil per minute. The Heil hose-reel makes every burner tank easily and quickly accessible. It will pay you to investigate.



New HEIL Delivery Unit Serves Bartles-Maguire

Here's the "last word" in fuel oil truck tanks. Made by Heil---it will do double duty advertising and delivering the products of the Bartles-Maguire Oil Co., Milwaukee. The unit includes a 1000 gallon, four compartment, semi-elliptical Heil tank with Heil hose reel and Heil-Viking rotary pump with PTO from truck transmission. Note device for locking hose reel on right hand supporting strut. Only the required length of hose need be unwound from the reel to make delivery. Write for the new Heil fuel oil truck tank bulletin No. 176.

THE HEIL CO.

1238-50 26th Ave. **Milwaukee, Wisconsin**

The Heil Co. manufactures a complete line of tanks, hoists and bodies for motor trucks. For the particular needs of the oil industry, the Heil Co. manufactures bulk storage tanks, underground storage tanks, pneumatic tanks and air receivers. Let the Heil engineers solve your problems for you.

"DEFIANCE"

CLAIMS

The prevention of claims at their source is within the power of the petroleum products shipper.

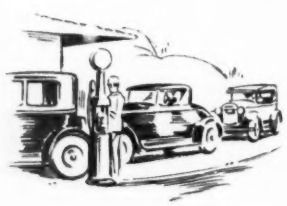
Transportation claims always mean trouble. Trouble costs money in any business, adding an expense to the deal that you had not counted on when you set your price.

Claims drive good customers away.

Use Defiance Steel Barrels and you'll have no more claims for leakage due to defective shipping packages.

The American Steel Package Co.
Defiance, Ohio

Increase Club, Lodge and Factory Business
ALLISON COUPON BOOKS
Accurate—Compact—Convenient



Clubs and similar organizations like the convenience of making their purchases on a coupon basis. Get their business for YOUR filling stations with Allison Coupon Books. Furnished in stock or special designs. Absolutely accurate. Send for samples and prices.

Allison Coupon Company
Indianapolis, Indiana
Coupon Book Specialists Since 1888

New Stations Building

Webster City, Ia.—Monoa Oil Co., of Council Bluffs, Ia., will build filling station.

Bellefonte, Pa.—William F. Kessinger will build garage and filling station

Abernathy, Tex.—C. B. Jackson is completing filling station.

Magnolia, Ark.—Dave Childs will erect filling station.

Cameron, Mo.—George T. Howser, Jr., will build filling station in the spring.

Albion, Neb.—Wirges & Jochum are completing filling station.

Farmington, Minn.—E. F. Sypal will erect filling station.

Waco, Tex.—Humble Oil & Refining Co. will build filling station.

Decatur, Tex.—J. A. Moore is completing filling station.

Arkansas City Kan.—Marland Refining Co. will build $10,000 filling station here.

Columbus, O.—Refiners Oil Co., Dayton, O., has leased property at Dennison and Dublin Aves. here for filling station.

Norwalk, O.—J. H. Williams is building filling station.

Houston, Tex.—D. D. Hutchinson and C. H. Lentsch, Jr., owners of South End Service Station, will build $4,000 filling station.

Blair, Neb.—Verne Haynes will build garage and filling station.

Mexico, Mo.—Roxana Petroleum Corp. will erect filling station.

Fargo, Okla.—Mr. Henry, of Pawhuska, is building filling station on highway 15.

Denton, Tex.—J. W. Bateman, Jr., will build filling station.

Rockland, Me.—Ira W. Feeney will build bulk station.

Madison, Wis.—Robert Mitchell Co. will build filling station costing $8,000.

Veedersburg, Ind.—Charles Sentman is building filling station.

Green Bay, Wis.—Hall's, Inc., will build filling station. Charles Hall is head.

West Chester, O.—Charles Michael is completing filling station.

Announce Changes in Marland Personnel

FORT WORTH, Dec. 23.—The resignation of M. H. Goode as vice president of the Marland Oil Co. of Texas is announced from Fort Worth headquarters. He will open offices as an individual operator at Fort Worth. Before coming to Texas more than a year ago, Mr. Goode was connected with the Marland Oil Co. of California, then maintaining San Francisco headquarters.

A number of changes are announced in the personnel of the Marland offices at San Angelo. W. H. Winn, in charge of land operations, will open offices for himself at San Angelo after Jan. 1. James Foster will scout the San Angelo territory, succeeding J. Hoyt Lewis, resigned. G. C. Phillips will succeed Foster at Big Spring, under transfer from San Angelo.

Cut 610-620
Dry and Wet Hose Models

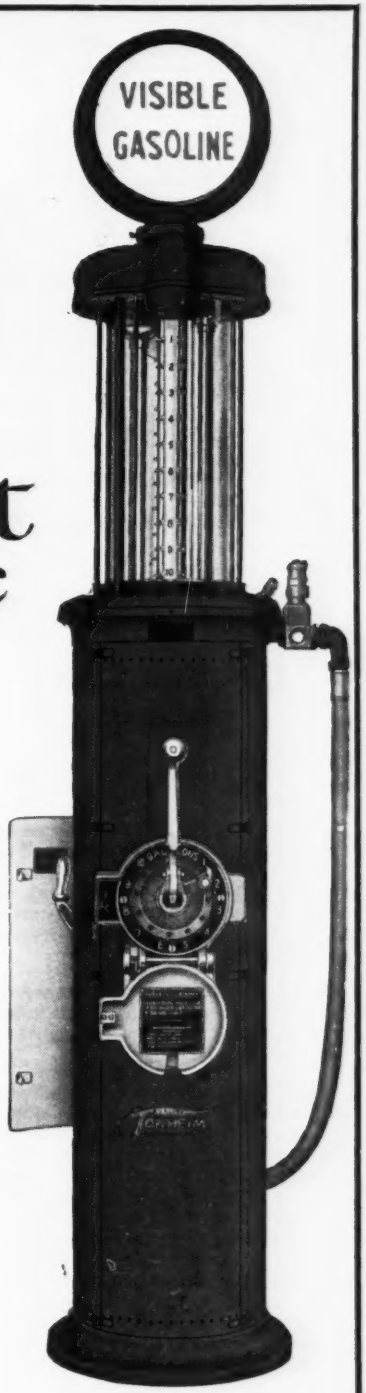
Cut 600-605 and Cut 610-620

Rounding Out *the* Tokheim line

Now—a wonderful new addition to the Tokheim line of Visible Gasoline Pumps—Cut 610-620—a pump with all the benefits of Tokheim quality and accuracy—*at an economical price.*

Incredibly simple operation
Reduced maintenance cost
Service in a flash

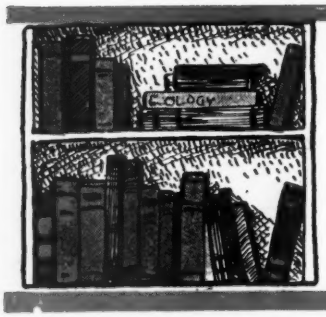
These are only three of the outstanding advantages of Tokheim Cut 610 (Dry Hose) and 620 (Wet Hose). Write for full information on the 12 Great Advantages of this remarkable new pump. You will gain a new idea of pump value! Please address Department "M".



The Famous
Cut 600-605

Tokheim Oil Tank & Pump Co., *Fort Wayne, Indiana*

TOKHEIM
Visible GASOLINE PUMPS



Oil Man's Bookshelf

YOUR Christmas Greetings with a good book—is a thoughtful way of remembering your friends and associates at Christmas time.

We will enclose a Christmas card signed with your name. All you have to do is to send in the coupon.

If you don't find the book you wish below, write us at once. We have a complete list of the best books on the petroleum industry.

Send your order in at once to avoid the usual Holiday jam in the mails.

OIL and GAS FORMS

by Benoit

Cyclopedia of Oil and Gas Forms by R. L. Benoit, of the Louisiana Bar, contains all forms used from the original acquisition of leasehold estates for exploration and development to the retail marketing of the refined product.

They are the latest forms which have been drafted to fulfill interpretations and definitions of courts of last resort, including:

Leases; Assignments; Special and General leases and assignment stipulations; Corrections; Amendments; Ratifications; Extensions; Rentals; Releases; Mineral and Royalty sales and contracts; Rights of Way; Escrow agreements and options; Oil and gas and lease purchase and sales contracts; Bonds, Mortgages; Surface contracts; Mineral reservations; Title; Office; Injury and compensation forms; Powers of attorney; Transfer and division orders; Well drilling contracts; and other forms.

CYCLOPEDIA of OIL and GAS FORMS is valuable in both office and field work in all oil producing states.

634 pages Price $10

BURNING LIQUID FUEL is a practical treatise on perfect combustion of oils and tars; gives analyses, calorific values and heating temperatures of various gravities; information on design and proper installation of equipment for all classes of service.

Illustrations of equipment shown were selected from 42,000 installations in successful operation. They show you interior construction and give the most modern application of liquid fuel to obtain perfect combustion.

Cut your power costs by sending for a copy of BURNING LIQUID FUEL today.

340 pages—Cloth $4.

AMERICAN PETROLEUM REFINING

Employees or heads of refineries in charge of, or planning to extend their plants, will find in this book valuable technical data on the latest design and operation of refineries.

"American Petroleum Refining" is an excellent guide for efficient plant operation. Along heat conservation lines, H. S. Bell, the author, includes much data gained from actual experience.

Among the subjects discussed are: Manufacturing process; Refinery site; Stills; Condensers; Heat exchangers; Cracking; Chemical treatment; Wax plants; Filtering; Cold settling; Compounding; Storage; Volume measurements; Bulk transportation; Packages; Power plant and boiler house; Acid recovery; Fire protection.

475 pages—263 illustrations—$5.

Cut and mail

NATIONAL PETROLEUM NEWS
Room 707, 1213 West 3rd St., Cleveland, Ohio.

I want the books checked below. Enclosed is check or money order for $.....

- ☐ Oil and Gas Forms $10
- ☐ Burning Liquid Fuel $4
- ☐ American Petroleum Refining $5

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ON THE LAZY BENCH

National Petroleum News

A ROUND ROBBING

If you have a Predilection
  For Amateur Detection
And wish to launch forth on a Sleuthing
    Spree;
  As there's much hangs in the Balance,
You might exercise your Talents
  To find out who balled up the Industry.

The Producer feels quite Strongly
  That he's being treated Wrongly
In the matter of the Price paid for his Oil;
  And that in this time of Crisis
The Refiner's lowly prices
  Do not constitute half-payment for his Toil.

The Refiner makes a statement
  Containing nothing but Beratement
Of the Jobber whom he knows should take
    the Blame;
  "He's the one who ought to Pay
Cause he gives the Stuff away
  And squeezes out a Profit just the same."

The Jobber laughs aloud
  And points with finger Proud
To the fact that his gross profit is too Small;
  And that the Retail Differential
Is larger than Essential—
  In fact he thinks there should be None at
    All.

Now at the Retail station
  There's little Approbation
Of the methods used by Customers who buy;
  On the fill me, bill me, plan,
A sort of Game of catch-as-catch-can,
  These also have a finger in the Pie.

So there we have the Story
  Of petroleum's "What Price Glory"
And if you solve this Mystery ere you die,
  We are ready to Bestow
The greatest Honor here below
  A director-ship in the A. P. I.
    C. M. L.

* * *

Called Home Gradually

Ephraim Walker Johnson, colored, had by due process of law been hanged in Florida. His funeral was being preached by a Kentucky pastor, who had known Ephraim since childhood.

"Brethen," said the preacher, "you all have come to pay your last respects to the deceased, Brother Johnson. This brother was bred and born in Kentucky, where he grew to manhood; he later gravitated to Tennessee, then to Alabama, then to Georgia, and, last to Florida, where he met, wed and killed his wife. This is the crime he has now paid for. Brethren and sisters, this deceased brother is now in hell, and the only consolation that I can offer the sorrowing relatives is—that he went there, gradually."

—Magnolia Oil News

* * *

School Teacher—"Willie, do you know what becomes of boys who use bad language when they're playing marbles?"

Willie—"Yes, miss. They grow up and play golf."

Bit and Tongs.

Some Example

Prof.—Give me an example of slow torture.

Student—A good example of slow torture would be a ride in a hard steering second hand Ford with an old fashioned girl.

Pure Oil News

* * *

A well-known official of the Illinois Bell Telephone Company was rudely aroused from his slumbers by the ringing of the telephone. After bruising his knee on a chair, he reached the phone.

"Hello," he growled.

"Are you an official of the telephone company?" asked the voice.

"Yes, what can I do for you?"

"Tell me," said the voice, "how it feels to get out of bed at two o'clock to answer a wrong number."

Bit and Tongs.

* * *

He—"May I call?"

She—"I am sorry, I'm married."

He—"'Sall right. I'm married and just as sorry."

Bit and Tongs.

* * *

Not all of the lightweight champions are in the ring. Some of them run coal yards, grocery stores and butcher shops.

Bit and Tongs.

* * *

The emigrant was buying his ticket at the shipping office.

"And what about your trunk?" demanded the clerk.

"For what would I be wantin' a thrunk?" asked the bewildered emigrant.

"To put your clothes in, of course," replied the clerk.

"What?" cried the scandalized emigrant, "and me go naked?"

Bit and Tongs.

* * *

Waitress—"Is your cocoa hot, sir?"
Baldheaded Diner—"Oh, no. That's just sunburn."

The Loreco Diamond

Bottle Fold Type Folio

Your Name in Gold Free

Complete with Bottle Fold and Bottles *only* **$15.30**

364—A very complete and practical folio made from heavy 5-oz. black cowhide. 3¼-inch pocket that holds leather handled bottle fold. Contains sixteen 4-oz. plain bottles. One-inch pocket for stationery. Leather case containing six ½ oz. jars $3.25 additional.

Other styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware Kansas City, Mo.

REFINERS and COMPOUNDERS

Make your Castor Oil Motor Lubricants with our Pure Processed Castor Oil. Will not gum—will not separate.

■ ■ ■

Use our Castor Essence for your Non-Chatter Ford Oils.

■ ■ ■

Metallic friction eliminated. Film Ruptures impossible with Castor Oil Blended Motor Oils.

Seymour - Howard Corporation

Manufacturing Chemists

601 W. 53rd St., Chicago, Ill.

Canfield

Dispose of the Preliminaries, *and Concentrate on 1928 Selling*

ONE of your first and most important 1928 "resolutions" will be to concentrate on increasing your volume. You can't afford to let anything distract you from your first-last-and-always job of selling.

Your source of supply is a tremendously important consideration. Nevertheless, it's a preliminary consideration. It's a subject to be gotten off your mind at the earliest possible moment.

It's expensive to shop around indefinitely. Avoid all this unsettled feeling. Save all this time, and invest it in hard, direct, man-to-man sales effort—the only kind that will win in 1928!

Why not put this matter to rest *NOW*?

Get acquainted with Canfield. Put to work for yourself Canfield's 41 years' experience—Canfield's 41 years' intimate acquaintance with the needs of the Jobber—Canfield's 41 years' specialization in meeting your exact requirements.

Canfield Products are favorably known in Tunis and Algiers.

THE CANFIELD OIL COMPANY

Serving Jobbers Since 1886 *General Offices:* Cleveland, Ohio

Refineries: Cleveland, Ohio; Coraopolis, Pa. *Compounding and Grease Plant:* Cleveland

Greater New York Plant: 285 Tonnelle Ave., Jersey City

Return this list, checking the items in which you are interested. We'll respond promptly with prices and full particulars.

Tank Cars	Drums		Barrels	Small Packages	
☐	☐	Premium Motor Oils (100% Penna.)	☐	☐	Filtered Cylinder Stocks
☐	☐	Premium Tractor Oils	☐	☐	Steam Refined Cylinder Stocks
☐	☐	Canfield Filtered Motor Oils	☐	☐	Petrolatums
☐	☐	Mid-Continent Motor Oils	☐	☐	P. O. C. Gear Compound
☐	☐	Mid-Continent Tractor Oils	☐	☐	Zero Gear Compound
☐	☐	Zero Oils	☐	☐	Canfield Press-Sure Lubricant
☐	☐	Black Oils	☐	☐	Cup Greases
☐	☐	Car Oils	☐	☐	Fibre and Sponge Grease
☐	☐	Castor Machinery Oils	☐	☐	Gear Shield
☐	☐	Soluble Oils	☐	☐	Axle Grease
☐	☐	Cutting Oils	☐	☐	Auto Soap
☐	☐	Viscous Neutrals	☐	☐	Mine Car Greases
☐	☐	Non-Viscous Neutrals	☐	☐	Graphite Grease
☐	☐	Red Oils	☐	☐	Crank Pin Grease
			☐	☐	Belt Dressing

Name .....

Company Name .....

Street, City, State .....

Canfield Oil Co. — Quality & Experience Since 1886

This SIGN is a *Satisfaction Signal* to motorists!

Authorized Dealer

SINCLAIR OPALINE REG. U. S. PAT. OFF. **MOTOR OIL**

Seals Power at every Degree of Wear

WHEN a motorist buys oil at the station which displays this sign, he gets *correct lubrication*—and the Dealer gets more steady business, because the motorist is satisfied!

The method for recommending Opaline Motor Oil (used only by Authorized Opaline Dealers) is an outstanding success! That's because it is the correct method, based on the Sinclair Law of Lubrication. It provides different grades of Opaline to fit the different degrees of wear in automobile engines, as indicated by the mileage on motorists' speedometers. Opaline Dealers ask the motor oil customer his mileage—consult the Sinclair Recommendation Index, and then give him the correct grade. The motorist feels the difference in his car immediately and remembers which Dealer gave him that difference!

May we tell you about this successful method of selling *correct lubrication* with the full line of Opaline Motor Oils?

SINCLAIR REFINING COMPANY, INC.

Also Makers of Sinclair Gasoline and H-C Gasoline

45 NASSAU STREET, NEW YORK

Atlanta Boston Chicago Houston Kansas City

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Refinery - Tank Wagon Markets

National Petroleum News

U. S. Motor Gasoline Touches New Low As Holiday Lull Grips Oklahoma

Staff Special

TULSA, Dec. 24

THE usual pre-holiday lull was evident this week in the Mid-Continent refinery market and business was limited mostly to handling routine matters. U. S. Motor gasoline tone had a new low for 1927. A few companies closed for the Christmas holiday as early as Friday noon, and today several more were closed, while others had only a small staff working up to noon.

Exporters were inactive both in Oklahoma and Texas all week. The little buying for export that was reported, was done by companies who had either oversold or whose goods could not meet all specifications with the result they were compelled to place their orders with other refiners.

Distillates, gas oils and low cold test high gravity fuel oils were the firmest spots in the market, but the movement of these goods was confined primarily to contract orders.

The demand from the jobbing trade and retail consumer for a higher gravity gasoline, coupled with the low price of natural gasolines has caused an increased demand for naphthas for blending. Prices, accordingly, have been relatively high, compared with U. S. Motor gasoline prices. Demand for the naphthas has been so good lately, however, that a few refiners have changed their runs to include the production of these low gravity goods. One Oklahoma company is preparing to make both blending and special naphthas, and has virtually ceased to make U. S. Motor grades. Another refiner said he had been able to show a better return on naphthas than on U. S. Motor grades so he had ceased to make the latter.

This increase in production has reacted slightly on prices, although most refiners are getting 0.125 to 0.25 cent of their price for 58-60 U. S. Motor gasoline.

The price of 58-60 U. S. Motor broke under 6 cents this week. To competition from other areas was attributed the decline in the Mid-Continent. Reports were heard here that quotations were out from northern refiners which figure approximately 5.25 cents a gallon f.o.b. Group 3.

Domestic demand for high gravity gasolines was comparatively good. Refiners with export orders had little interest in the domestic business. In Texas this was especially true, most refiners there being well sold up until after Jan. 1.

Louisiana refiners were handling their operations in such a manner that little gasoline is kept in storage and, with demand fair in their own territory, they have been able to move their production at comparatively good prices. One of the larger refiners in Arkansas late this week caught up with orders for the first time since an explosion and fire in October curtailed operations. This company has been forced to buy a considerable amount on the open market and have kept slack from appearing in the Arkansas markets. At one time this company was 38 cars behind on shipments.

Grade C natural gasoline touched a new low mark with goods moving at 3.50 cents a gallon. Active buying developed Wednesday and Thursday on Grade AA, however, and that commodity moved up fractionally yesterday.

ONE of the major manufacturers in this district has sufficient contracts to require him to be in the market much of the time for the next few months to buy to fill the contracts. Some purchases were made this week with indications that still more would be made after the Christmas holidays. This manufacturer has not bought much for two years, having been busy moving his own large production.

Another large company which has contracts sufficiently large to cause it to buy about half its requirements, bought more than 150 cars of grade AA. This and another purchase earlier in the week took approximately 200 cars of grade AA off the market.

Contracts for natural gasolines begin to expire around Jan. 1 and new ones are being drawn up. One of the forms to be used next year will be based on market date of shipment, with a minimum of around 1 cent under U. S. Motor gasoline, and a maximum of about the same above. Some of the contracts that expire soon, were based on 1 to 2 cents above U. S. Motor, whereas only for a short time this year has any grade of natural gasoline been higher in price than U. S. Motor, and that price was only a fraction of a cent.

Kerosenes slowed up somewhat and price of 41-43 water white grade fell fractionally. Most sales were within a 4.25 to 4.50-cent range.

REFINERS are just now getting the volume of distillate business which was expected a month or so ago. Cold weather in the northern territory has held on long enough to cause jobbers' stocks to diminish and jobbers are ordering approximately their maximum on contracts. Prices on all grades of distillates have been steady for several weeks.

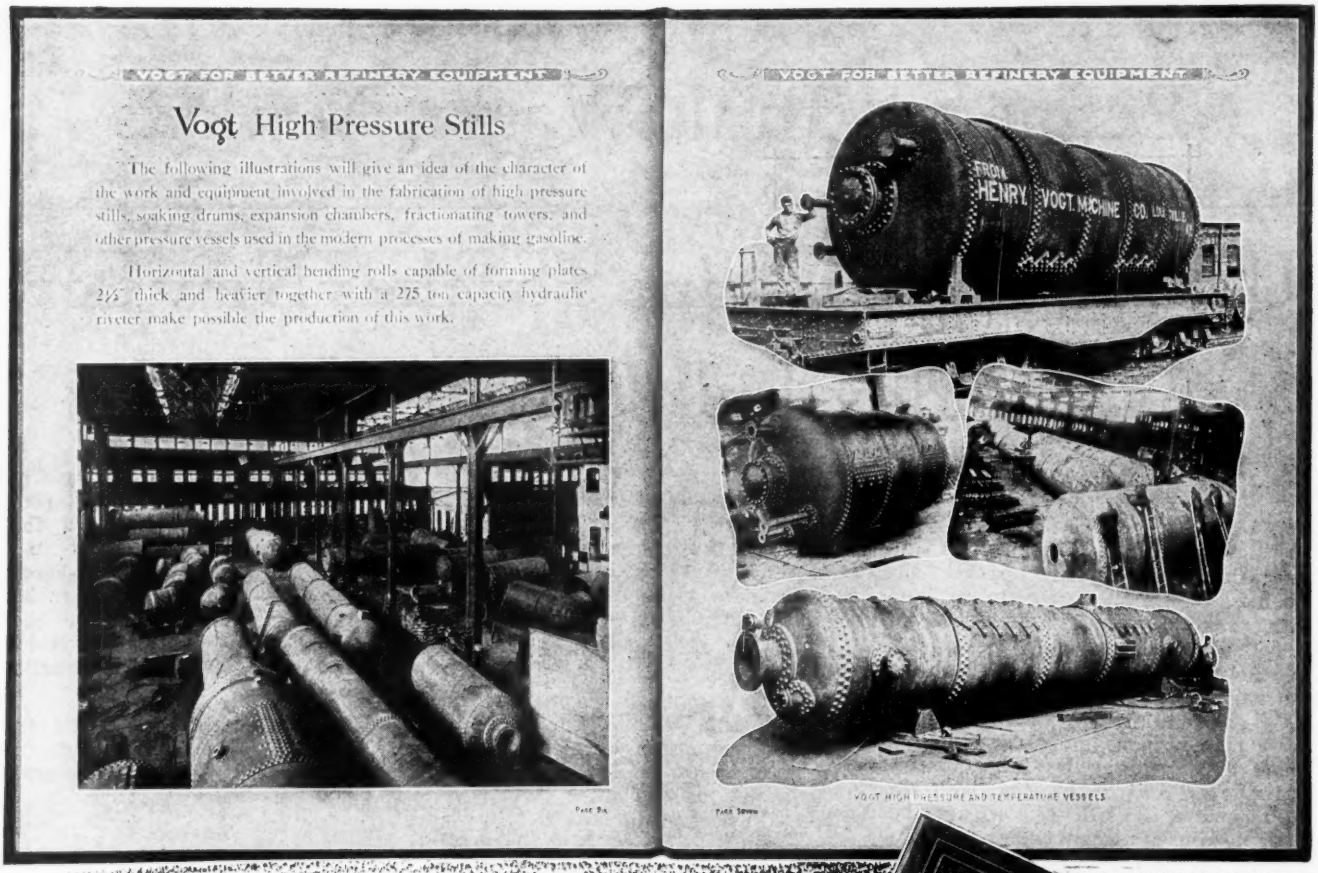
Demand for gas oils has increased. One buyer said he shopped Thursday for some ordinary 32-36 gas oil offering 2.25 cents a gallon, and while he found a few refiners who had sold some goods for resale at that price, apparently the orders had been sufficient to give them relief and they were unwilling to book any more orders at less than 2.375 cents.

Low cold test goods were in excellent demand in all districts, especially in Louisiana where the zero straw gas oil is used in many places for home heating in place of straw distillates.

Fuel oils of low gravity were in little demand but the higher gravity, low cold test goods were moving as well as could be expected, although little if any buying for January had been reported to close of business today.

Contract movement of Oklahoma neutrals and cylinder stocks was fair but the holiday lull also had extended to these products as far as spot buying was concerned.

Oklahoma wax prices were generally unchanged from prices a week ago with few new inquiries in the field.


VOGT FOR BETTER REFINERY EQUIPMENT
Vogt High Pressure Stills
The following illustrations will give an idea of the character of the work and equipment involved in the fabrication of high pressure stills, soaking drums, expansion chambers, fractionating towers, and other pressure vessels used in the modern processes of making gasoline.
Horizontal and vertical bending rolls capable of forming plates 2½" thick and heavier together with a 275 ton capacity hydraulic riveter make possible the production of this work.
Page 84
VOGT FOR BETTER REFINERY EQUIPMENT
FROM HENRY VOGT MACHINE CO. LOUISVILLE KY
VOGT HIGH PRESSURE AND TEMPERATURE VESSELS
Page Seven

"Your New Bulletin On Refinery Equipment Inspires Confidence In Vogt Products"

This statement is an extract taken from a letter received from the manager of one of America's Largest Refineries.

This new bulletin on "VOGT Products for the Refinery" will impress you likewise. If you failed to receive a copy, Write us today.

BRANCH OFFICES:
NEW YORK
CHICAGO
CLEVELAND
DALLAS
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HENRY VOGT MACHINE CO.
INCORPORATED
LOUISVILLE, KY.

Manufacturers of: Oil Refinery Equipment, Drop Forged Steel Valves and Fittings, Water Tube and Horizontal Return Tubular Boilers, Ice Making and Refrigerating Machinery.

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices Dec. 27	Prices Dec. 19	Prices Dec. 12
52-54 Naphtha	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
54-56 Naphtha	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
58-60 Gasoline	8.125– 8.25	8.25 – 8.50	8.25 – 8.50
60-62 Str.-run gasoline	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
64-66 Str.-run gasoline	9.25 – 9.75	9.25 – 9.75	9.25 – 9.75
68-70 Str.-run gas. 350-360 e.p.	10.25 –10.50	10.00 –10.25	10.00 –10.25
OKLAHOMA			
48-50 450 e.p. naphtha	†5.75 5.875	†5.875– 6.00	†5.875– 6.00
50-52 450 e.p. naphtha	†5.875	†5.875– 6.00	†5.875– 6.00
56-58 450 e.p. gasoline	6.00	6.00	6.00
58-60 450 e.p. gasoline	6.00	6.00	6.00
56-58 U. S. Motor, 437 e.p.	††6.00	††6.00	††6.00
58-60 U. S. Motor, 437 e.p.	†5.875– 6.00	†6.00	6.00 – 6.125
60-62 437 e.p. gasoline	6.00 – 6.375	6.00 – 6.375	6.125– 6.375
60-62 400 e.p. gasoline	6.25 – 6.625	6.375– 6.625	6.375– 6.625
64-66 390 e.p. gasoline	6.75	6.75	6.75
64-66 375 e.p. gasoline	6.875– 7.125	7.00 – 7.125	7.00 – 7.125
68-70 350-360 e.p. gasoline	7.125– 7.50	7.125– 7.50	7.00 – 7.25
KANSAS (F. O. B. refinery Kansas destination)			
58-60 U. S. Motor 437 e.p.	6.25 – 6.375	6.25 – 6.375	6.25 – 6.375
60-62 400 e.p. gasoline	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
64-66 375 e.p. gasoline	7.375– 7.50	7.375– 7.50	7.375– 7.50
NORTH TEXAS			
48-52 450 e.p. naphtha	†6.00	†6.00	†6.00
56-58 450 e.p. gasoline	5.875	5.875	5.875
58-60 450 e.p. gasoline	5.875	5.875	5.875
58-60 U. S. Motor 437 e.p.	†5.875– 6.00	6.00	6.00
60-62 400 e.p. gasoline	6.25 – 6.375	6.375	6.375
64-66 390 e.p. gasoline	6.625– 6.75	6.625– 6.75	6.625– 6.75
64-66 375 e.p. gasoline	6.875– 7.00	6.875– 7.00	6.875– 7.00
68-70 350-360 e.p. gasoline	7.125– 7.25	7.125– 7.25	7.125
NORTH LOUISIANA (For Louisiana and differential territory destination)			
58-60 U. S. Motor gasoline	6.50	6.50	6.50
ARKANSAS (For Arkansas intrastate shipment)			
56-58 450 e.p. gasoline	6.25	6.25	6.25
58-60 450 e.p. gasoline	6.25	6.25	6.25
58-60 U. S. Motor 437 e.p.	6.50	6.50	6.50
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
58-60 U. S. Motor 437 e.p.	**6.375	**6.375	**6.375
CALIFORNIA			
*54-58 U.S. Motor 437 e.p.	7.00 – 8.50	7.00 – 8.00	7.00 – 8.00
*58-61 U.S. Motor 437 e.p.	8.00 – 9.50	7.50 – 9.00	7.50 – 9.00
*42-45 Eng. dis. 445-480 e.p.	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00

*2c tax to be added if used in state.

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F. Since Oct. 1, 1927 all naturals must pass corrosion test.)

OKLAHOMA			
Grade AA, 80-87.9, 90% Recovery	†4.875– 5.00	†4.875– 5.00	†5.125– 5.25
Grade A, 72-79.9, 90% Recovery	†5.25	†5.25 – 5.375	†5.375– 5.50
Grade BB, 84-92, 85% Recovery	†4.00 – 4.125	†4.125	†4.50
Grade B, 76-83.9, 85% Recovery	†4.00 – 4.125	†4.125	†4.50
Grade C, 80-92, 78% Recovery	†3.50	†3.75 – 3.875	†4.125
NORTH TEXAS (F. O. B. Breckenridge)			
Grade AA, 80-87.9, 90% Recovery	†4.875– 5.00	†4.875– 5.00	†5.125– 5.25
Grade A, 72-79.9, 90% Recovery	†5.25	†5.25 – 5.375	†5.375– 5.50
Grade BB, 84-92, 85% Recovery	†4.00 – 4.125	†4.125	†4.50
Grade B, 76-83.9, 85% Recovery	†4.00 – 4.125	†4.125	†4.50
Grade C, 80-92, 78% Recovery	†3.50	†3.875	†4.125
NORTH LOUISIANA (F. O. B. Monroe District)			
Grade AA	†5.50	†5.50	†5.75
Grade BB	†5.00	†5.00	†5.50
Grade C	†4.50	†4.50	†5.25
CALIFORNIA			
75-85, 375-390 e.p. blend.	9.00 –10.00	9.00 –10.00	9.00 –10.00

MOTOR FUEL BLENDS

PENNSYLVANIA			
68-70 Blend 437 e.p.	Prices	.....	.....
64-66 Blend 437 e.p.	temporarily	.....	.....
60-62 Blend 437 e.p.	discontinued	.....	.....
OKLAHOMA			
64-66 Blend 437 e.p.	**5.875– 6.00	**6.00	**6.00

BURNING OILS

PENNSYLVANIA			
45 w.w. kerosene	6.50 – 6.75	6.50 – 6.625	6.50 – 6.75
46 w.w. kerosene	6.75 – 7.00	6.875– 7.25	6.875– 7.25
47 w.w. kerosene	7.00 – 7.50	7.25 – 7.50	7.25 – 7.50
OKLAHOMA			
41-43 w.w. kerosene	4.25 – 4.50	4.375– 4.50	4.50 – 4.625
42-44 w.w. kerosene	4.75 – 4.875	4.75 – 4.875	4.875– 5.00
KANSAS (F. O. B. refinery Kansas destination)			
41-43 w.w. kerosene	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
42-44 w.w. kerosene	5.625– 5.75	5.625– 5.75	5.625– 5.75
NORTH TEXAS			
40-42 w.w. kerosene	†4.25	†4.25	†4.25
41-43 w.w. kerosene	†4.375	†4.375	†4.375– 4.50
NORTH LOUISIANA (For Louisiana and differential territory destination)			
41-43 w.w. kerosene	5.00	5.00	5.00 – 5.25
ARKANSAS (For intrastate shipment only)			
42-44 kerosene	5.25	5.25	5.25
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
42-44 kerosene	5.00	5.00	5.00
CALIFORNIA			
38-40 w.w. kerosene	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50

NEUTRAL OIL

PENNSYLVANIA Vis.	(Viscosity at 70°F.)		
200 No. 3 Assoc. Filt.	32.00 –34.00	32.00 –33.50	32.00 –33.50
180 No. 3 Assoc. Filt.	30.00 –32.00	29.00 –31.00	29.00 –31.00
150 No. 3 Assoc. Filt.	26.25 –27.50	26.25 –28.00	26.25 –28.00
	(Non Viscous)		
34 Grav. 330-340 Flash	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75
36 Min. Neut. 300-305 Flash	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
**OKLAHOMA Vis. Color	(Viscosity at 100°F.)		
100—No. 2	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
150—No. 3	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
150—No. 4	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
180—No. 3	9.00 –10.00	9.00 –10.00	9.00 –10.00
180—No. 4	9.50 – 9.75	9.50 – 9.75	9.50 – 9.75
180—No. 5	9.25 – 9.75	9.25 – 9.75	9.25 – 9.75
200—No. 3	9.50 –11.00	9.50 –11.00	9.50 –11.00
200—No. 4	9.50 –10.75	9.50 –10.75	9.50 –10.75
200—No. 5	8.50 –10.50	8.50 –10.50	8.50 –10.50
220—No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220—No. 4	12.25 –12.50	12.25 –12.50	12.25 –12.50
220—No. 5	11.50 –12.00	11.50 –12.00	11.50 –12.00
240—No. 3	14.00	14.00	14.00
240—No. 4	13.25 –13.50	13.25 –13.50	13.25 –13.50
240—No. 5	12.00 –13.00	12.00 –13.00	12.00 –13.00
280—No. 3	15.50 –16.50	15.50 –16.50	15.50 –16.50
280—No. 4	15.25	15.25	15.25
280—No. 5	14.00 –15.00	14.00 –15.00	14.00 –15.00
300—No. 5-6	17.00	17.00	17.00
**GULF COASTAL Vis. Color	(Viscosity at 100° F., pour test 0)		
100—No. 2 Unfilt. Pale	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
200—No. 3 Unfilt. Pale	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
300—No. 3 Unfilt. Pale	10.00 –10.50	10.00 –10.50	10.00 –10.50
500—No. 3½ Unfilt. Pale	11.50 –12.00	12.00 –12.50	12.00 –12.50
750—No. 4 Unfilt. Pale	13.50 –14.00	14.00 –14.50	14.00 –14.50
200—No. 5½ Red Oil	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
300—No. 5½ Red Oil	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
500—No. 6 Red Oil	10.00 –10.50	10.00 –10.50	10.00 –10.50
750—No. 6 Red Oil	12.50 –13.00	12.50 –13.00	12.50 –13.00
**CALIFORNIA Vis. Color	(Viscosity at 100°F.)		
100—No. 2	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
100—No. 3	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
200—No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
300—No. 3	10.50 –11.00	10.50 –11.00	10.50 –11.00
450—No. 3-3½	13.00 –13.50	13.00 –13.50	13.00 –13.50
550—No. 3-3½	14.50 –15.00	14.50 –15.00	14.50 –15.00
600—No. 3-3½	15.00 –15.50	15.00 –15.50	15.00 –15.50
100—No. 5	6.50	6.50	6.50
200—No. 5	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300—No. 5	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
400—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
500—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
600—No. 5	12.00 –12.50	12.00 –12.50	12.00 –12.50
700—No. 7	14.00 –14.50	14.00 –14.50	14.00 –14.50

CYLINDER STOCKS

**OKLAHOMA			
190-200 Vis. at 210° Brt. St.	31.00 –32.00	31.00 –32.00	31.00 –32.00
150-160 Vis. at 210° Brt. St.	23.00 –26.00	23.00 –26.00	23.00 –26.00
600 E St. 140-150 Vis.-210°	17.00 –18.00	17.00 –18.00	17.00 –18.00
600 St. Ref. Olive Green	9.00 –10.00	9.00 –10.00	9.00 –10.00
600 St. Ref. Dark Green	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
Black Oil	5.00	5.00	5.00
PENNSYLVANIA	(1-inch Immersion Test)		
600 Steam Refined	9.50 –10.50	9.50 –10.25	9.50 –10.25
650 Steam Refined	11.50 –12.50	11.50 –12.50	11.00 –13.00
600 Flash	16.00 –16.50	16.00 –16.50	16.00 –16.50
625 Flash	27.00 –28.00	27.00 –28.00	27.00 –28.00
600 Warren E	17.00 –19.00	17.00 –19.00	17.00 –19.00
600 Oil City E	15.50 –16.50	15.50 –16.50	15.50 –16.50
600 D Filtered	24.50 –25.50	24.50 –25.50	24.50 –25.50
Cold Test Stock, 40-50 p. p., 140-150 vis. at 210°, 540-550 flash, No. 8 color	28.50 –30.00	30.00 –31.00	29.50 –31.00
40-50 p.p., 140-150 vis. at 210, 540-550 flash, No. 6-6½ color diluted	27.00 –28.00	27.00 –28.00	27.50 –29.00

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher)

†PRICES NOMINAL ††ONLY ONE REFINER QUOTING *QUOTATIONS ONLY **REPRESENTS BOTH SALES AND QUOTATIONS

CO-RE-CO

100% PURE PENNSYLVANIA OIL

PURE PENNSYLVANIA PETROLEUM PRODUCTS — TRADE MARK CORECO — ESTABLISHED 1885

A SUPER PENNSYLVANIA MOTOR OIL for the INDEPENDENT JOBBER

Since 1885 we have been refining "The highest grade crude in the world." We even refine this crude to so high a degree of perfection as to produce a Super Pennsylvania Motor Oil.

Compare the specifications of our CORECO MOTOR OILS with those of ANY oil you may choose.

	GRAVITY	FLASH	FIRE	VIS. @ 100	VIS. @ 212
Coreco Light	30.3	440	505	235	49
Coreco Medium	29.8	450	520	390	60
Coreco Heavy	29.0	465	540	700	75
Coreco Ex. Heavy	28.1	485	560	1065	97
Coreco Spec. Duty	27.8	495	575	1425	106

CORECO affords a profitable business building opportunity for the independent jobber and our CORECO exclusive territory contract is as attractive as are the specifications of our Superior Pennsylvania Motor Oils.

CORECO distribution is available to independent jobbers and distributors only. Attractive territories for exclusive distribution are still open in some very productive districts, which will be granted to reliable jobbers.

Write our Main Office for further details.

CONTINENTAL REFINING CO. — — OIL CITY, PA.

WHY A BROWN TANK IS CERTIFIED OIL-TIGHT

First—Over 15 years of practical experience in building.
Second—Guaranteed Thickness Material of proper analysis.
Third—Correct design to handle the load.
Fourth—They are built the right way not the cheapest way.

Through many years of experience in building oil equipment, we know your problems in every detail.

Our exceptional manufacturing facilities enable us to give the best kind of service.

A specially constructed tank built according to the purchaser's specifications.
The Standard Oil Company have several hundred of these in service.

BROWN SHEET IRON & STEEL CO. ST. PAUL, MINN.

— — — — — — — — *Tear out this coupon and mail it to-day* — — — — — — — —

We are interested in your tanks. Send your catalog and prices.

Make of Truck..... Year..... We operate..... (number) Tank Trucks.

Other equipment on which you may send prices.....

Name..... Address.....

Refinery Markets on Wax and Heavy Oil Products

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

WAX

PENNSYLVANIA	Prices Dec. 27	Prices Dec. 19	Prices Dec. 12
Per Pound, New York			
122-124 white crude scale	3.00	2.75 – 3.00	2.75 – 3.00
124-126 white crude scale	3.00	3.00	3.00
OKLAHOMA			
**124-126 Semi-refined..	2.375– 2.625	2.375– 2.625	2.375– 2.625
CALIFORNIA			
White crude scale, per pound, ton lots.....	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50

FUEL OIL

PENNSYLVANIA			
36-40 fuel oil.....	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
30-34 fuel oil.....	4.625– 4.75	4.625– 4.75	4.625– 4.75
28-32 fuel oil.....	4.625– 4.75	4.625– 4.75	4.625– 4.75
OKLAHOMA			
38-40 straw distillate.....	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
36-38 straw distillate.....	3.00 – 3.125	3.00 – 3.125	3.00
*32-36 gas oil, straw.....	†2.50	†2.50	†2.50
*32-36 dark gas oil.....	2.375– 2.50	2.375– 2.50	2.375– 2.50
28-30 fuel oil (in bbls.)...	$0.925– 0.975	$0.925– 0.975	$0.925– 0.975
26-28 fuel oil (in bbls.)...	$0.85 – 0.90	$0.85 – 0.90	$0.875– 0.90
24-26 fuel oil (in bbls.)...	**$0.80	**$0.80	**$0.80– 0.825
22-26 fuel oil (in bbls.)...	**$0.75– 0.775	**$0.75– 0.775	**$0.75– 0.775
18-22 fuel oil (in bbls.)...	**$0.70– 0.725	**$0.70– 0.725	**$0.70– 0.725
16-18 fuel oil (in bbls.)...	**$0.70	**$0.70	**$0.70
14-16 fuel oil (in bbls.)...	**$0.70	**$0.70	**$0.70

*Zero cold test low flash goods sell for ¼ cent more per gallon.
Zero cold test fuel oils sell for 5 to 15 cents more per bbl.

KANSAS (F. O. B. refinery Kansas destination.)			
38-40 straw distillate.....	3.50 – 3.75	3.50 – 3.75	3.50 – 3.75
36-38 straw distillate.....	3.25	3.25	3.25
32-36 gas oil.....	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
24-26 fuel oil	*$0.90 – 0.95	*$0.90 – 0.95	*$0.90 – 0.95
18-22 fuel oil.....	*$0.85	*$0.85	*$0.85
NORTH TEXAS			
38-40 straw distillate.....	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
32-36 gas oil, cracked.....	2.25	2.25	2.25 – 2.375
32-36 gas oil, uncracked..	2.25 – 2.375	2.25 – 2.375	2.375
24-26 fuel oil (in bbls.)...	$0.725– 0.75	$0.75	$0.75 – $0.80

GULF COASTAL	Prices Dec. 27	Prices Dec. 19	Prices Dec. 12
Fuel (in bbls.).....	$1.40 –$1.50	$1.50 – $1.55	$1.50 – 1.55
Gas oil.....	4.375– 4.50	4.375– 4.50	4.375– 4.50
NORTH LOUISIANA (For Louisiana and differential territory destination)			
32-36 gas oil, dark.....	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
32-36 gas oil, straw.....	3.125– 3.25	3.125– 3.25	3.125– 3.25
16-20 fuel oil (in bbls.) ...	$1.00	$1.00	$1.00
ARKANSAS (For Arkansas intrastate shipment only)			
32-36 gas oil, straw.....	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
32-36 gas oil.....	3.00	3.00	3.00
28-32 gas oil.....	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
28-32 gas oil.....	2.75	2.75	2.75
Smackover crude fuel....	$0.975– 1.00	$0.975– 1.00	$0.975– 1.00
CALIFORNIA (F. O. B. San Joaquin Valley. At San Francisco, 4c per bbl. more)			
14-18 fuel oil (in bbls.)...	$0.60 –$0.75	$0.60 –$0.75	$0.60 –$0.75
14-18 Bunker oil (in bbls.)	$0.80 –$1.00	$0.80 –$1.00	$0.80 –$1.00
30-34 gas oil (in bbls.)...	$1.05 –$1.10	$1.05 –$1.10	$1.05 –$1.10
27 Plus Diesel oil (in bbls.)	$0.90 –$1.00	$0.85 –$1.00	$0.85 –$1.00

PETROLATUMS

PENNSYLVANIA (In cents per pound in tank cars; in barrels, in car lots ¾c per pound more.)			
Snow White.....	9.25	9.25	9.25
Lily White.....	8.25	8.25	8.25
Cream White.....	7.25	7.25	7.25
Light Amber.....	5.50	5.50	5.50
Amber.....	4.50	4.50	4.50
Red.....	3.75	3.75	3.75
Green No. 5 color.....	3.50	3.50	3.50

**PETROLEUM COKE

(Per ton in car lots)

Lump.....	$5	$5	$5
Still run.....	$3	$3	$3
Breeze.....	$2	$2	$2

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South American Buying Bolsters Wax Markets

NEW YORK, Dec. 24.—A renewal of activity by South American buyers bolstered wax prices at New York, as well as at New Orleans this week. There was no large volume of business placed but the few small lots of white crude scale sold brought approximately 0.125 to 0.25 cent a pound more than a week ago. Exporters reported virtually no demand from the United Kingdom.

According to a number of dealers, the short covering reported a fortnight ago absorbed most of the late December and January wax available, and this fact is credited with having brought about the slight price increase noted this week.

Small lots of white crude scale sold in New York at 2.75 to 3 cents a pound. Occasional lots of distress goods were reported to have been picked up at 2.625 cents early in the week but toward the end buyers were of the opinion that scale at this price was no longer a market factor.

The market for fully refined waxes was extremely quiet and prices this week are based almost wholly on quotations. The 123-126 and 125-127 A.m.p. grades were generally quoted at 3.70 to 3.75 cents a pound.

No change was noted in the market for Pennsylvania lubes at New York. Foreign buying was at low ebb. A firmer tendency in the field was asserted to have prevented prices from showing any fluctuation in the seaboard market.

Alamo Buys Grease Plant

SAN ANTONIO, Tex.—E. S. Smith, for the past three years president and manager of the Alamo Petroleum Co., Inc. of San Antonio, a wholesale marketing company, has bought a grease plant from the Russell Oil Co. located at 1631 S. Laredo St., San Antonio. The plant is equipped to manufacture all grades of cup, gear and axle greases. Mr. Smith will operate under the name of the Alamo Grease Manufacturing Co., Inc. and associated with him will be Elias Rahmani of Tampico, Mexico who will be vice-president and have charge of exports to Mexico. C. E. Barnes, a local attorney, will be secretary-treasurer.

MADISON, S. D., Dec. 27.—The eighth annual convention of the South Dakota Independent Oil Jobbers Association will be held at Sioux Falls on Jan. 18 and 19. A large attendance and an interesting program is being anticipated, according to F. H. Buehler, secretary.

Hookins New Treasurer Of Prairie Oil

INDEPENDENCE, Kans., Dec. 24.—A. B. Hookins, for several years comptroller and assistant treasurer of Prairie Oil & Gas Co., has been elected treasurer of the company to succeed the late E. T. Patterson. Mr. Hookins has been with the Prairie for 24 years, all of which time was spent in the treasury department.

The vacancy on the board of directors caused by the death of Mr. Patterson was filled by Horace C. Fitzpatrick, a director of the Prairie's Wyoming subsidiary. He has served the company in various capacities from field work in the producing department to general office, and goes to the board of directors with a varied experience of 14 years.

Mr. Hookins was succeeded as comptroller and assistant treasurer by Vernon M. Miller. W. V. Heckman has been advanced from the position of cashier to that of assistant treasurer. Earl Fertig was promoted from assistant cashier to cashier.

Henry L. Phillips Marries

TULSA, Dec. 27.—Henry L. Phillips, president of the Sinclair Crude Oil Purchasing Co., and Miss Ethel Burns, of Tulsa, were married Dec. 19 at Sistersville, W. Va.

Industrial Companies Inquiring For January Fuel Oil

Staff Special
CHICAGO, Dec. 24.

CHICAGO resale market experienced the usual pre-holiday conditions this week. Gasoline and kerosene were quiet; prices generally unchanged. Heavier oils with a low cold test and low flash were in good demand. Virtually all sellers reported a goodly number of industrial companies inquiring for January supplies of oils. In general the trade quoted prevailing prices or approximately .25 cent higher. One marketer reported receiving an inquiry from an industrial for 2,000,000 gallons of zero fuel oil, no particular gravity specified and not above 300 viscosity for shipment over the first quarter.

Demand for 58-60 U. S. Motor gasoline was light. Jobbers were buying to fill immediate requirements, most of trade reported. Sales of 58-60 U. S. Motor were reported as low as 5.50 cents, most goods were moved at 5.75 to 6 cents.

The higher gravity gasolines were in fairly good demand with 64-66, 375 e.p. grade having the best movement. All grades were generally unchanged in price. The 60-62, 437 e.p. gasoline was sold at 6.125 to 6.25 cents up to Thursday and moved at 6 to 6.25 cents the rest of the week. Movement of 60-62, 400 continued at 6.50 to 6.625 cents with reports of some sold as low as 6.25 cents. The most of 64-66, 375 e.p. goods sold all week at 6.875 to 7 cents.

Movement of kerosene was slow this week. Most sellers reported selling only odd cars at prevailing prices of 4.375 to 4.50 cents for the 41-43 w.w. Some of this was sold at 4.25 cents.

The trade generally reported good movement for distillates. Most of the 38-40 straw sold at 3.25 to 3.375 cents. Several sellers advanced their prices to 3.50 cents and reported some sales at that figure.

Majority of the trade reported steady movement of gas oil this week. Better demand was reported for the zero cold test low flash goods than for the ordinary material. Dark ordinary 32-36 gas oil continued to sell at 2.50 cents although some sales were reported at both above and below this figure. Gas oil of like gravity with zero cold test was sold at 2.875 to 3 cents. An occasional sale of this grade was reported at 2.75 cents. Zero straw 32-36 gas oil sold at 3.125 to 3.25 cents. This grade of goods was still comparatively scarce, the trade reported.

Good demand was reported for low cold test fuel oils. Higher cold test goods moved slowly, the trade reported. Most sales of 28-30 fuel were at $1.00 to $1.05. Some sellers were getting up to $1.10. The 24-26 fuel moved mostly at $0.80 to $0.85 with some sales reported at higher prices. Fuel oil of 22-26 gravity was movingly mostly at $0.80 to $0.825. The 18-22 product sold at $0.775 to $0.80. Some sales of low cold test goods were reported as high as $0.85. Quotations on Smackover crude fuel remained at $1.00 to $1.025.

The official weather forecast for Standard of Indiana territory for next week is for mild fair weather early in the week followed by precipitation and slightly lower temperatures toward the close.

Gulf Coastal Lubes Quiet

HOUSTON, Dec. 27.—The holiday season found the Gulf Coastal lubricant markets as quiet as they have been for weeks. Business was virtually at a standstill but manufacturers reported their position with regard to stocks somewhat more favorable. Increased sales had materialized in the last few weeks and the price structure was firmer at generally unchanged levels.

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Week's Price Changes Tank Wagon Markets

Gasoline Changes

Standard of Louisiana—S. s. price only, of gasoline advanced 1 cent, New Orleans, to 18.5 cents, including 2 cent state tax, **Dec. 17.**

* * *

Continental Oil—S. s. price only gasoline advanced 2 cents, Denver, to 18 cents, including 3 cent state tax, **Dec. 26.**

Direct Mail Advertising Brings Trial Orders

TULSA, Dec. 24.—For the past six months the Derby Oil and Refining Corp. has been conducting a direct mail advertising campaign in its marketing territory. Weekly letters sent to a selected list of jobbers have brought in a surprising volume of inquiries, according to C. A. Keller, sales manager, and some trial orders without direct personal solicitation.

The mail campaign was divided into two sections. The first was a series of letters and folders describing Derby products and advancing arguments why the Independent jobber should buy from an Independent refiner who is not in competition with him.

The second part of the campaign was to acquaint the trade with the personnel of the Derby organization. For example one folder bore a picture of Sales Manager Keller on the cover and inside were photographs of the road salesmen and a talk about the company's code forbidding its men to make any misleading statements about Derby products. During the football season one clever folder depicted the Derby organization as a team of ten players with the jobber as fullback to carry the ball. Other folders were on Traffic Manager H. G. Watts and the service he renders, and other folders on the production and refining department heads.

American Hoist Corp., Memphis, Tenn., has placed on the market a new automobile hoist electrically welded by the stable-arc process of the Lincoln Electric Co., Cleveland, O. The only joints that are not welded are those that are knocked down for shipping.

Previously, all hoists produced by this company have been assembled by bolting and riveting which in time will work loose, but the electric welding job is permanently tight.

The American company reports speedy and more economical production as a result of this welding process.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

(As posted by principal marketing companies)

(OIL PRICE HANDBOOK has t.w. and s.s. markets for whole year arranged for quick reference)

These Prices In Effect December 26, 1927

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline Total S.S.	Oil T.W.
Atlantic City, N. J.	16	2	18	20	14
Newark, N. J.	16	2	18	20	14
Annapolis, Md.	16	4	20	23	12
Baltimore, Md.	16	4	20	23	10
Cumberland, Md.	16	4	20	23	14
Washington, D. C.	16	2	18	21	12
Danville, Va.	16	4½	20 5	*	14
Norfolk, Va.	16	4½	20 5	23 5	12
Richmond, Va.	14	4½	18 5	21 5	14
Roanoke, Va.	16	4½	20 5	23 5	14
Petersburg, Va.	16	4½	20 5	23 5	14
Charleston, W. Va.	16	4	20	23	14
Keyser, W. Va.	16	4	20	*	14
Parkersburg, W. Va.	13	4	17	20	14
Wheeling, W. Va.	16	4	20	23	14
Charlotte, N. C.	16	4	20	23	14
Hickory, N. C.	16	4	20	23	14
Mt. Airy, N. C.	16	4	20	23	14
Salisbury, N. C.	16	4	20	23	14
Charleston, S. C.	15	5	20	23	14
Columbia, S. C.	15	5	20	23	14

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

*New York City	17	0	17	21	15
Albany, N. Y.	13	0	13	15	15
Buffalo, N. Y.	15	0	15	18	14
†Rochester, N. Y.	13	0	13	16	13
Syracuse, N. Y.	15	0	15	15	15
Boston, Mass.	17	0	17	18	15
Augusta, Me.	17	4	21	23	15
Manchester, N. H.	17	3	20	22	15
Burlington, Vt.	17	3	20	22	15

*In steel barrels.

†It is reported that S. O. New York is selling a second grade of gasoline at Rochester, 4c below the above posted prices which apply on its Socony grade.

ATLANTIC REFINING

Pittsburgh, Pa.	16	*	16	*22	14
Philadelphia, Pa.	15	*	15	*21	14
Allentown, Pa.	16	*	16	*22	14
Erie, Pa.	12	*	12	*18	14
Scranton, Pa.	16	*	16	*22	14
Altoona, Pa.	16	*	16	*22	14
Dover, Del.	16	3	19	22	14
Wilmington, Del.	16	3	19	22	14
Providence, R. I.	17	2	19	19	15
Boston, Mass.	17	0	17	17	15
Springfield, Mass.	18	0	18	18	15
Worcester, Mass.	17	0	17	17	15
Hartford, Conn.	18	2	20	20	15
New Haven, Conn.	18	2	20	20	15

*3-cent state tax is collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	13	5	18	21	15.5
Louisville, Ky.	13	5	18	21	15
Covington, Ky.	14	5	19	22	15.5
Clarksdale, Miss.	13	4	17	20	12.5
Gulfport, Miss.	††14.5	4	††18.5	21.5	14
Jackson, Miss.	13	4	17	20	13.5
Natchez, Miss.	12.5	4	16.5	19.5	14
Vicksburg, Miss.	12.5	4	16.5	19.5	14
Birmingham, Ala.‡	14	4	18	21	15.5
Mobile, Ala.‡	13	4	17	20	15
Montgomery, Ala.*‡	15	4	19	22	16.5
Atlanta, Ga.	13	4	17	19	†14
Augusta, Ga.	15	4	19	22	†16.5
Macon, Ga.	15	4	19	22	†13.5
Savannah, Ga.	13	4	17	19	†14.5
Jacksonville, Fla.°	13	5	18	21	11.5
Miami, Fla.°	15	5	20	23	15.5
Tampa, Fla.°	13	5	18	21	14
Pensacola, Fla.°	**14	5	**19	22	14

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

‡Alabama gasoline prices include 1/40 of 1c inspection fee, effective Oct. 1, 1927.

†Georgia kerosene prices include 1c state tax.

°Florida gasoline prices include ½c inspection fee.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

S. O. INDIANA

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline Total S.S.	Oil T.W.
Chicago, Ill.	14	2	16	18	12
Decatur, Ill.	11.5	2	13 5	15 5	12.1
E. St. Louis, Ill.	13.1	2	15 1	17 35	11.2
Joliet, Ill.	14.4	2	16.4	18 4	12.3
Peoria, Ill.	10	2	12	12	12.1
Quincy, Ill.	14.2	2	16 2	18 2	11.9
Indianapolis, Ind.	11.2	3	14 2	15.2	13.2
Evansville, Ind.	14	3	17	19	13
South Bend, Ind.	14.2	3	17.4	17.4	13.4
Detroit, Mich.	12 8	3	15 8	17 8	13.7
Grand Rapids, Mich.	11	3	14	16	13.6
Saginaw, Mich.	14.9	3	17.9	19.9	13 8
Green Bay, Wis.	14.6	2	16.6	18.6	12 4
Madison, Wis.	14.3	2	16 3	18 3	12 1
Milwaukee, Wis.	14.1	2	16 1	18 1	11.9
La Crosse, Wis.	15.2	2	17 2	19 2	13
Minneapolis, Minn.	12	2	14	14	12 9
Duluth, Minn.	13.5	2	15 5	17.5	12 9
Mankato, Minn.	12 1	2	14 1	16 1	12 7
Des Moines, Ia.	11.9	3	14.9	16.9	12 3
Davenport, Ia.	12.5	3	15 5	17 5	12.3
Sioux City, Ia.	14.1	3	17 1	19 1	11 9
Mason City, Ia.	14.5	3	17.5	19 5	12 3
St. Louis, Mo.	*13.6	2	15.6	17 9	11 3
Kansas City, Mo.	†12.9	2	14 9	16 9	10.6
St. Joseph, Mo.	†12.5	2	14 5	16 5	11.2
Fargo, N. D.	13	2	15	17	14.9
Grand Forks, N. D.	17.2	2	19.2	21 2	15.2
Minot, N. D.	16.9	2	18 9	20.9	14.9
Pierre, S. D.	15.5	4	19.5	21.5	13.9
Huron, S. D.	15.5	4	19.5	21.5	13.9
Wichita, Kans.	10.8	2	12.8	12.8	10.8
Bartlesville, Okla.	12.8	3	15.8	17.8	10.8

S. O. Indiana's quantity discount schedule on tank wagon deliveries of gasoline outside the city of Chicago is 1c for 50 gals. or more at one delivery; 1½c for 6,000 gals. or more a month; 2c for 10,000 gals. or more a month, and 3c for 15,000 gals. or more a month.

In Chicago, above discounts apply, except that minimum required quantity to get the 1c discount is 100 gals., instead of 50 gals. This 1c discount applies on quantities of 100 gals. and over, in addition to regular Q.D.A. discounts applying thru rest of territory, as stated above.

Service station discount is 2c per gal. to consumers of 200 gals. or more a month, or 2400 gals. per year.

Discount on kerosene is 1c on 50 gal. dumps throughout territory.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. NEBRASKA

Omaha, Neb.	14.25	2	16.25	16.25	12.25
McCook	12.75	2	14.75	16.75	11.50
Norfolk	14.75	2	16.75	18.75	12.75
North Platte	15.75	2	17.75	19.75	13.50
Scottsbluff	15.25	2	17.25	19.25	13.00

CONTINENTAL OIL

Denver, Colo.	13	3	16	18	12.5
Pueblo, Colo.	12	3	15	15	14.5
Grand Junction, Colo.	17.5	3	20.5	22.5	18
Casper, Wyo.	14	3	17	19	13
Cheyenne, Wyo.	15	3	18	20	14.5
Butte, Mont.	19	3	22	22	19
Helena, Mont.	19.5	3	22.5	24.5	19
Salt Lake City, Utah	16.5	3½	20	21	17
Boise, Ida.	19.5	4	23.5	25.5	19
Twin Falls, Ida.	19.5	4	23.5	25.5	19
Albuquerque, N. M.	16	5	21	24	17

S. O. CALIFORNIA*

Phoenix, Ariz.	19	4	23	27	21.5
Los Angeles, Cal.	13.5	3	16.5	20.5	15.5
Fresno, Cal.	14	3	17	21	16.5
San Francisco, Cal.	14	3	17	21	15.5
Reno, Nev.	18	4	22	26	19
Portland, Ore.	14.5	3	17.5	21.5	16.5
Seattle, Wash.	14.5	2	16.5	20.5	16.5
Spokane, Wash.	18.5	2	20.5	24.5	20.5
Tacoma, Wash.	14.5	2	16.5	20.5	16.5

*On Oct. 1, t.w. price at all points for spot sales, was advanced 1c. Very large portion of deliveries are under contract carrying above prices. New customers signing contracts and selling only one brand of gasoline, are given prices published in above table.

S. O. LOUISIANA

Little Rock, Ark.	11	5	16	16	11
Alexandria, La.	13	2	15	18	†14
Baton Rouge, La.	12	2	14	17	†12.5
Lake Charles, La.	13.5	2	15.5	18.5	†14
New Orleans, La.	13.5	2	*15.5	*18.5	†14
Shreveport, La.	13.5	2	15.5	18.5	†13
Lafayette, La.	13	2	15	18	†13.5
Bristol, Tenn.	16	3	19	22	14
Chattanooga, Tenn.	16.5	3	19.5	22.5	15
Knoxville, Tenn.	16.5	3	19.5	22.5	15
Nashville, Tenn.	15	3	18	21	15
Memphis, Tenn.	12	3	15	16.5	14

*New Orleans gasoline prices include 1c parish tax in addition to 2c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax

S. O. OHIO

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline Total S.S.	Oil T.W.
All Ohio points	14	3	17	19	14

MAGNOLIA PETROLEUM

Muskogee, Okla.	12	3	15	18	10
Oklahoma City	10	3	13	14	10
Tulsa, Okla.	10	3	13	14	10
Fort Smith, Ark.*	13	*3	16	19	12
Little Rock, Ark.	11	5	16	16	12
Texarkana, Ark. *	12	*3	15	18	12
Dallas, Tex.	11	3	14	17	11
Fort Worth, Tex.	11	3	14	16	10
Houston, Tex.	10	3	13	15	15
San Antonio, Tex.	10	3	13	15	10
El Paso, Tex.	11	3	14	15	16

*Within City of Texarkana and Fort Smith, the state tax on gasoline is 3c per gal. conforming with the Texas state tax. In these two districts outside of the city the 5c Arkansas tax applies.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M. & P. Naphtha	Cleaner Naphtha
Chicago	16	18	18
Detroit	17.7	19.7	19.7
Kansas City	†16.2	†18.2	†18.2
Milwaukee	16.7	*20.7	*20.7
Minneapolis	*20	*22	*22
St. Louis	15.9	17.9	17.9
New York	...	19	....

*Includes 2c state tax.

†Includes 1c city tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline Total S.S.	Oil T.W.
Toronto	19.5	3	22.5	26	21
Ottawa	19.5	3	22.5	26	21
Cochrane	24.5	3	27.5	36	26
Ft. William	24.5	3	27.5	31	23.5

MANITOBA

Winnipeg	24.5	3	27.5	31	23.5

SASKATCHEWAN

Regina	27.5	0	27.5	32	26.5

ALBERTA

Edmonton	26.5	3	29.5	33	25.5
Calgary	22.5	3	25.5	29	23.5

BRITISH COLUMBIA

Vancouver	21	3	24	28	22

QUEBEC

Montreal	20.5	3	23.5	27	21
Quebec City	22.5	3	25.5	31	23
Three Rivers	22.5	3	25.5	30	23

NEW BRUNSWICK

St. John	24.5	3	27.5	32	24
Moncton	24 5	3	27.5	32	24

NOVA SCOTIA

Halifax	24.5	3	27.5	32	24
Sydney	24.5	3	27.5	32	24

PRINCE EDWARD ISLAND

Charlottetown	24.5	3	27.5	31	24

Note: In districts surrounding these points 1c additional is added to city price.

Eastern Markets Inactive; Prices Unchanged

Staff Special
NEW YORK, Dec. 24

WITH interest centering largely around the coming holidays, Eastern gasoline markets passed through an unusually quiet period this week. Trading was at low ebb early in the week, and as the Christmas holidays drew near, activities decreased still further. Friday and Saturday saw little business done except the routine handling of inquiries from regular customers. Refiners and carload marketers reported jobbers ordering out their contract commitments fairly regularly.

It was reported out in some quarters that few of the large jobbers who ordinarily buy about 30 days' requirements of gasoline at a time have not covered on their January needs as yet, and it is this class of buying which the trade looks forward to next week to help in the elimination of low northern seaboard prices.

The market this week was more largely one of quotations than anything else. With sellers' interests lagging almost as much as jobbers', there was nothing to occasion price fluctuations. At the close of business today, the quotation ranges for U. S. Motor gasoline were virtually identical with those prevailing a week ago at the majority of seaboard points.

At New York harbor, at least one refiner who for some time has been quoting 8.50 cents for U. S. Motor gasoline in tank cars, reduced his quotation for spot shipment to 8.25 cents. Another refiner who has offered goods at 8 cents frequently of late advanced his quotation to 8.25 cents. A number of resale agents, however, continued to quote this grade at 8 cents and the bulk of contract movement this week was asserted to be going within this range.

The Baltimore trade reported a comparatively steady market for U. S. Motor gasoline. One refiner in this vicinity continued to quote U. S. Motor in tank cars at 8 cents per gallon and reported a sufficient volume of goods moving to be representative of the market.

New England refiners quoted slightly higher prices for U. S. Motor gasoline this week and their reports were substantiated by jobbers in this area who asserted there was less possibility of less than 8 cents for tank car shipments. Two refiners reported getting occasional orders at 8.25 cents and in view of the comparatively small total volume of goods moving, believed this price to be a market factor.

There was no change in prices quoted by Philadelphia refiners who for well over three weeks have been asking a minimum of 8.25 cents for U. S. Motor in tank cars. The sales manager of one refinery in this vicinity stated they were taking on some January business at 8.50 cents, but were a bit reluctant to commit themselves very heavily over this period.

The more spirited demand for kerosene noted late last week subsided considerably this week with the general holiday lull. Prices withstood the let up in buying, however, and 7 cents was still the minimum for which water white goods could be bought in any of the seaboard markets today.

Movement of gas oil on contracts was well up to expectations and prices were without material change this week. Refiners reported inquiries for furnace oil steadily increasing and active spot buying of this commodity is expected to develop in the near future. Jobbers asserted that contract consignments had been sufficient to carry them through the first cold snap the seaboard experienced this year, but believed they would have to enter the open market for additional material when the next zero wave arrives.

Bunker oil was unchanged with Grade C posted at $1.35 per barrel at Bayonne refineries, and $1.415 f.a.s. New York harbor.

Holiday Spirit Dominates Gulf Export Market

Staff Special
NEW YORK, Dec. 24

A HOLIDAY spirit dominated the Gulf export market this week and while the prospects of a big movement of light petroleum products abroad during the next month or so loomed rather brightly, practically no buying developed this week to change the general picture.

Stocks abroad, according to well informed students of the market, are touching bottom, and it is felt that a renewal of activity on the part of foreign buyers will materialize as soon as the new year turns the corner.

Interest lagged in the heavy oil market. A fairly active demand from South American buyers for wax occasioned the little trading that was reported at the Gulf this week.

As for the cause of the complete cessation of foreign inquiries for light oils, one New York supplier stated it was useless to look for any interest from abroad the week before and after Christmas. "The holidays," he went on to say, "apparently are 'strictly' observed on the other side, and the current period of inactivity is customary and always looked for at this time of year."

As early as the middle of last November, foreign buyers displayed considerable interest in securing mixed cargoes for February, March and, in some instances, April shipment. Few suppliers, if any, were willing to commit themselves at that time for shipment so far ahead especially in view of the increasing scarcity of high gravity gasoline continually reported in the field. Consequently, with buyers unable at that time to negotiate cargoes for future shipment, it is generally felt that the inquiry will be much more spirited the fore part of January.

Current quotations for all commodities were without material change. Gasoline of U. S. Motor specifications was offered at 7 to 7.25 cents a gallon in cargo lots. The 61-63, 390 end point gasoline was quoted at 8.25 cents and 64-66, 375 end point goods at 0.25 cent higher.

The inquiry for cased goods was of a routine nature. Cased kerosene was in fair demand and prices were well maintained.

Buyers reported receiving firm offers of Grade C bunker oil in cargo lots at $1.00 per barrel this week, but as yet no business is known to have been placed at this low figure. Prices of Grade C for bunkering purposes were unchanged.

Several sales of white crude scale were made at New Orleans at around 2.75 cents a pound, an 0.125 cent higher than last week's quotations. South American buyers continued to show considerable interest in the market and brokers toward the end of the week were bidding 2.90 cents a pound for January and February goods. Fully refined wax was reported available at 3.50 cents a pound in some quarters but for the most part it was quoted at 3.625 cents.

TULSA, Dec. 24.—The school of business of the University of Oklahoma is forming a bureau of business research under a recent authorization by the board of regents. The bureau p'ans to investigate problems of the petroleum industry as one of its principal activities. The school recently directed a letter to leaders in the industry asking for suggestions as to a profitable field of endeavor which might be valuable.

Complete Seaboard Market

Export markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the years 1924-1925-1926)

Eastern Domestic Market

(Prices for tank car lots, f.o.b. refinery or seaboard terminal, represent majority of quotations and sales.)

	Dec. 27	Dec. 19	Dec. 12
U.S. Motor gasoline, New York harbor	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
U.S. Motor gasoline, Philadelphia	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
U.S. Motor gasoline, New England	8.00 – 8.25	8.00	8.00
U.S. Motor gasoline, Baltimore	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
U.S. Motor gasoline, Norfolk	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
U.S. Motor gasoline, Wilmington	8.25	†8.50	†8.50
U.S. Motor gasoline, Charleston	8.00	8.00	8.00
U.S. Motor gasoline, Savannah	7.75	7.75	7.75
U.S. Motor gasoline, Jacksonville	7.75	7.75	7.75
California U.S. Motor gasoline, Baltimore	8.50	8.50	8.50
California U.S. Motor gasoline, Philadelphia	8.50	8.50	8.50
Water white kerosene, New York harbor	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Water white kerosene, Philadelphia	7.25 – 7.50	7.25 – 7.50	7.25 – 7.50
Water white kerosene, Baltimore	7.25 – 7.50	7.25 – 7.50	7.25 – 7.50
Water white kerosene, New England	†7.50	†7.50	†7.50
28-34 gas oil, New York harbor	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
28-34 gas oil, New England	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
38-42 furnace oil, New York harbor	6.00	6.00	6.00
36-40 furnace oil, New England	5.50 – 6.00	5.50 – 6.00	5.50 – 6.00
Grade C bunker oil, New York harbor	$1.35	$1.35	$1.35
Grade C bunker oil, New England	$1.35 –$1.40	$1.35 –$1.40	$1.40
Diesel oil, New York harbor	$2.10	$2.10	2.10
MEDICINAL OILS			
Russian 885-890 s.g., 325-330 vis.	$0.80 – 0.90	$0.80 – 0.90	$0.80 – 0.90
Russian 870-875 s.g., 150-155 vis.	$0.67 – 0.77	$0.67 – 0.77	$0.67 – 0.77
Russian 860-865 s.g., 80-85 vis.	$0.65 – 0.75	$0.65 – 0.75	$0.65 – 0.75

†Only one refiner quoting.

New York Export Market

(Gasoline and kerosene in cases in bulk. Lubricating oils are per gal. in bbls. Cylinder oils are Penna. products.)

	Dec. 27	Dec. 19	Dec. 12
U. S. Motor gasoline	23.90	23.90	23.90
43-45, 150 w.w. kerosene	18.15	18.15	18.15
42-44, 110 s.w. kerosene	17.15	17.15	17.15
CYLINDER OILS			
Bright stock, dark	35.00 –36.00	35.00 –37.00	35.00 –36.00
600 D filtered	30.00 –31.00	30.00 –31.00	30.00 –31.00
600 Warren E filtered	25.00 –26.00	25.00 –26.00	25.00
600 s.r. unfiltered	17.00	17.00	17.00 –17.50
650 s.r. unfiltered	18.50 –19.00	18.50 –19.00	18.50 –19.00
600 flash s.r.	20.00 –21.00	20.00 –21.00	20.00
630 flash s.r.	33.00	33.00	33.00
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	20.00	20.00	20.00
250 vis. No. 6 color	19.00	19.00	19.00
200 vis. No. 6 color	18.50	18.50	18.50
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	24.00	24.00	24.00
180 vis. No. 3¼ color	20.00	20.00	20.00
100 vis. No. 2¼ color	15.75	15.75	15.75
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	35.00	35.00	35.00
500 vis. No. 6½ color	33.00	33.00	33.00
400 vis. No. 7¼ color	31.00	31.00	31.00
300 vis. No. 6 color	30.00	30.00	30.00
200 vis. No. 3¼ color	24.00	24.00	24.00
MEDICINAL OILS			
875-885 s.g.	$0.80	$0.80	$0.80
865-870 s.g.	$0.70	$0.70	$0.70

WAXES (In cents per pound, f.a.s. carload lots)

WHITE CRUDE SCALE (In barrels)

	Dec. 27	Dec. 19	Dec. 12
122-124 A.m.p.	2.75 – 3.00	2.625– 2.75	2.75
124-126 A.m.p.	2.75 – 3.00	2.625– 2.75	2.75
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila.	3.70 – 3.75	3.75	3.75
125-127 A.m.p.	3.70 – 3.75	3.75	3.75
128-130 A.m.p.	3.875– 4.00	3.875– 4.125	3.875– 4.125
130-132 A.m.p.	4.50	4.375– 4.50	4.375– 4.50
133-135 A.m.p.	*5.50	*5.50	*5.50
135-137 A.m.p.	*5.75 – 6.00	*5.75 – 6.00	*5.75 – 6.00
YELLOW CRUDE SCALE			
124-126 A.m.p.	2.625	2.625	2.625

*Prices nominal.

Gulf Export Market

(F.O.B. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. and over, except where otherwise noted.)

GASOLINE	Dec. 27	Dec. 19	Dec. 12
U. S. Motor	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25
60-62, 400 e.p.	*8.00	*8.00	*7.75 – 8.00
61-63, 390 e.p.	8.25	8.25	8.00 – 8.25
64-66, 375 e.p.	8.50	8.50	8.50
U. S. Motor, cases (cargoes)	$1.60	$1.60	$1.60
64-66, cases (cargoes)	$1.75	$1.75	$1.75

*Nominal.

KEROSENE			
44 water white	7.00	7.00	7.00
41-43 prime white	6.00	6.00	6.00
Water white, cases (cargoes)	$1.60	$1.60	$1.60
Prime white, cases (cargoes)	$1.50	$1.50	$1.50
DOMESTIC GAS & BUNKER OILS			
*26-28 gas oil	4.125– 4.25	4.125– 4.25	4.125– 4.25
*30-32 gas oil	4.25	4.25	4.25
Grade C bunker oil	$1.20 –$1.25	$1.20 –$1.25	$1.15 –$1.25
Grade C bunker oil, cargoes	$1.00 –$1.05	$1.00 –$1.05	$1.02 –$1.05

*Translucent thru neck of 4 oz. bottle.

MEXICAN CRUDE AND BUNKER OILS (F.O.B. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid	$1.10 –$1.12	$1.10 –$1.16	$1.10 –$1.16
Grade C bunker oil, for bunkering purposes, taxes paid	$1.35	$1.35	$1.35

SOUTH TEXAS LUBRICATING OILS (Viscosity at 100° F.; cold test 0)
(Tanker, f.o.b. Houston)

100 vis. No. 2 unfiltered pale	6.00	6.00	6.00 – 6.50
200 vis. No. 3 unfiltered pale	8.00 – 8.50	8.00 – 8.50	8.00 – 9.00
300 vis. No. 3 unfiltered pale	9.00 – 9.50	9.00 – 9.50	9.00 –10.00
500 vis. No. 3½ unfiltered pale	10.50 –11.00	10.50 –11.00	11.00 –11.50
200 vis. No. 5½ red oil	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
300 vis. No. 5½ red oil	8.25 – 8.50	8.00 – 8.50	8.00 – 8.50
500 vis. No. 6 red oil	9.00 – 9.75	9.00 – 9.50	10.00

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Dec. 27	Dec. 19	Dec. 12
Gasoline, U. S Motor, 53-55 Gravity	6.00 – 6.50	6.00 – 6.50	6.00 – 7.00
Gasoline, U. S. Motor, blends and special cuts	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
Gas Oil, 30-34, per barrel	$1.05 –$1.10	$1.05 –$1.10	$1.05 –$1.10
Diesel Oil, 27 plus, per barrel	$0.95 –$1.05	$0.85 –$1.00	$0.85 –$1.00
Bunker oil, 14-18, per barrel	$0.80 –$1.00	$0.80 –$1.00	$0.80 –$1.00
Fuel oil, 14-18, per barrel	$0.75 –$1.00	$0.75 –$1.00	$0.75 –$1.00
Kerosene, 38-40 w.w., 125-150 flash, per gal.	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
Cased Goods			
Gasoline, U. S. Motor	$1.70 –$1.80	$1.65 –$1.75	$1.70 –$1.80
Kerosene, 38-40 w.w., 125-150 flash	$1.35 –$1.50	$1.30 –$1.45	$1.35 –$1.50

Crude Oil Prices, as Posted by Major

(Crude prices for years 1924-1925-1926 in

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Allegheny, N. Y. District)	$2.80
Bradford District Oil in National Transit Lines (Bradford District)	2.80
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	2.65
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	2.65
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	2.60
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	2.35
Keister Grade in National Transit Lines (Butler Co.)	1.10
Cabell Grade in Eureka Pipe Lines (West Virginia)	1.50
Corning Grade in Buckeye Pipe Lines (Ohio)	1.55
Corning, O. heavy grade	1.45
*Somerset Oil in Cumberland Pipe Lines (Kentucky)	1.60
Ragland Grade in Cumberland Pipe Lines (Kentucky)	.95

*Somerset oil run prior to Oct. 1922, takes price of 6 cents lower than above quotations.

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines.....$1.50

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective March 14, 1927

Wooster	$1.57	Plymouth	$1.33
Lima	1.71	West. Kentucky	1.33
Waterloo	1.20	*Canadian Petro.	2.11
Indiana	1.48	*Oil Springs	2.18
Princeton	1.60	*Posted by Imperial Oil Ltd.	
Illinois	1.60		

OKLAHOMA, KANSAS And NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective March 12, 1927

28-28.9	$1.12	35-35.9	$1.26
29-29.9	1.14	36-36.9	1.28
30-30.9	1.16	37-37.9	1.30
31-31.9	1.18	38-38.9	1.32
32-32.9	1.20	39-39.9	1.34
33-33.9	1.22	40-40.9	1.36
34-34.9	1.24	41-41.9	1.38
42-42.9	$1.40	48-48.9	$1.52
43-43.9	1.42	49-49.9	1.54
44-44.9	1.44	50-50.9	1.56
45-45.9	1.46	51-51.9	1.58
46-46.9	1.48	52 and above	1.60
47-47.9	1.50		

Above schedule met on March 12, by Gulf, Mid-Continent Pet. Corp., and Empire; by Carter, Humble and The Texas Co. on March 14.

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

March 14, same schedule as Prairie in above fields, except these grades posted Nov. 16:

Below 25	$0.90	26-26.9	$1.08
25-25.9	1.06	27-27.9	1.10
Mirando, Tex.			$1.00

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

Effective Sept. 14, Magnolia posted same price schedule as Prairie in above fields, in Panola Co. and latan, Tex. district, except that Magnolia is paying $1.05 for all oil below 30 gravity.

Glasscock County	$0.80
Corsicana heavy	$1.00

Carter Oil Co.

(Oklahoma and Kansas)

March 14, same schedule as Prairie.

PANHANDLE, TEXAS

Humble Oil & Refining Co.

Effective Aug. 23

Hutchinson, Carson and Wheeler Counties..$0.75

Pampa, Gray County, Effective March 14:

28-28.9	$ .80	37-37.9	$ .98
29-29.9	.82	38-38.9	1.00
30-30.9	.84	39-39.9	1.02
31-31.9	.86	40-40.9	1.04
32-32.9	.88	41-41.9	1.06
33-33.9	.90	42-42.9	1.08
34-34.9	.92	43-43.9	1.10
35-35.9	.94	44 and above	1.12
36-36.9	.96		

WEST TEXAS

Humble Oil & Refining Co.

Effective Aug. 23

Crane, Upton, Crockett and Pecos Counties...$0.60

NORTH LOUISIANA — ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton and De Soto

Effective March 14, 1927

Below 28	$1 10	40-40 9	$1.36
28-28.9	1 12	41-41 9	1.38
29-29 9	1.14	42-42.9	1.40
30-30 9	1 16	43-43.9	1.42
31-31 9	1.18	44-44.9	1.44
32-32.9	1.20	45-45.9	1.46
33-33.9	1.22	46-46.9	1.48
34-34.9	1.24	47-47.9	1.50
35-35.9	1.26	48-48.9	1.52
36-36.9	1.28	49-49.9	1.54
37-37.9	1.30	50-50.9	1.56
38-38.9	1.32	51-51.9	1.58
39-39.9	1.34	52 and above	1.60

*Smackover, below 24	$0.85
* do 24 and above	1.00
Bellevue	1.25
Cotton Valley	.85
**Urania, La	.75
†East El Dorado	1.00

**Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

*Smackover prices posted on Nov. 21 by S. O La., Gulf, Shreveport-El Dorado Pipe Line, Atlantic Oil Producing Co. and Magnolia Pet Co.; on Nov 19 by La. Oil Refg. Corp.; on Nov. 23 by The Texas Co.

STEPHENS, ARKANSAS

Atlantic Oil Producing Co. and Louisiana Oil Refining Corp.

Below 28	$1.00	30-30.9	$1.06
28-28.9	1.02	31-31.9	1.08
29-29.9	1.04	32 and above	1.10

GULF COASTAL

Posted by Humble Oil & Refining Co

Effective March 14

Grades A	$1.20	29-29.9	$1.25
Grades B:		30-30.9	1.27
Below 25	1.15	31-31.9	1.29
25-25.9	1.17	32-32.9	1.31
26-26.9	1.19	33-33.9	1.33
27-27.9	1.21	34-34.9	1.35
28-28.9	1.23	35 and above	1.37

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling and Pierce Junction. All other fields are Grades A only.

California Gasoline Price Firm; Fuel Market Deadlocked

Staff Special

LOS ANGELES, Dec. 24

CALIFORNIA market this week was rather slow. Gas oil continues strong and scarce. Distillates, used by the orchard owners for their smudge fires during cold weather, is slightly up. There has been no change in the kerosene markets for some weeks.

One offer this week of 5.875 cents for U. S. Motor gasoline went begging, and stiff quotations of 6 cents from almost every quarter. According to the American Petroleum Institute report covering November, only 127,918 barrels of gasoline was added to storage in California that month. More than a half million barrels of gasoline was added to storage in November 1926.

Gasoline in tank cars still sells at 7 cents and up. Some few small refiners are refusing to move a gallon in this trade at less than 8.50 cents a gallon, but buyers are able to secure the low price in small lots.

The fuel oil market is an unknown quantity. Refiners have large stocks, and the market is active, but buyer and seller cannot get together. Buyers are willing to pay 70 to 75 cents for this product for export, and most of the important sellers demand 80 cents or no sale. Spot shipments to East coast points is not possible, as competition at the Gulf is taking the business. Some fuel is moving to East coast, but largely on old contracts, netting the shipper less than 80 cents. Shipments can still be made to points other than Atlantic domestic.

Fuel oil is moving in tank cars at previously prevailing prices of 60 to 75 cents, with very little moving at the lower price. The favorite price seems to be around 65 cents, especially to points outside of the state.

Los Angeles Shipments

LOS ANGELES, Dec. 23.—Seventeen tankers left Los Angeles harbor during week ended Dec. 17, to points outside Pacific coast trade territory, carrying 1,114,848 barrels of crude and other petroleum products or a daily average of 163,549 barrels. This compares with 1,727,581 barrels the previous week.

Total movement included 134,652 barrels of crude, 439,659 barrels of fuel, 371,217 barrels of gasoline and 199,320 barrels of Diesel. Atlantic domestic drew 74,251 barrels of crude, 78,506 barrels of fuel, 77,677 barrels of gasoline and 149,980 barrels of Diesel. Products going to Atlantic foreign included 163,426 barrels of fuel and 196,693 barrels of gasoline. Remainder of total movement went to Pacific foreign.

Purchasers, in All Fields (in Effect December 26)

OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

(Effective March 14)

Grades A	$1.20	*Grades B	$1.15
‡Grades B (light crude):			
35-35.9	$1.37	38-38.9	$1.43
36-36.9	1.39	39-39.9	1.45
37-37.9	1.41	40 and above	1.47

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on oil below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co. and Midwest Refining Co.

(Salt Creek prices effective March 12)

‡Salt Creek 29-29.9	$1.14
" " 30-30.9	1.16
" " 31-31.9	1.18
" " 32-32.9	1.20
" " 33-33.9	1.22
" " 34-34.9	1.24
" " 35-35.9	1.26
" " 36-36.9	1.28
" " 37 and above	1.30
Elk Basin	1.33
Grass Creek light	1.33
Big Muddy	$1.25
Lance Creek	1.33
Rock Creek	1.25
Mule Creek	1.30
Rex Lake	1.10
‡Osage	1.33
‡Cat Creek, Mont.	1.33
Sunburst, Mont.	1.35
‡Hogback, N. Mex.	1.38
Artesia, N. Mex.	1.00

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA

Standard Oil Co. of California

Santa Maria and Ventura Posted by Union Oil Co.

Gravity	Signal Hill Seal Beach Huntington Beach	Inglewood Torrance	Whittier La Habra	Newhall, McKittrick, Kern River	Olinda-Brea Canon, Richfield	Athens-Rosecrans Dominguez	Montebello	Coyote Hills	Santa Fe Springs	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	$ .75	$ .85	....	$ .85	$ .85	....	$ .75	$ .75	$ .75	$ .75	$ .85	$ .85
15-15.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
16-16.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
17-17.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
18-18.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
19-19.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
20-20.9	.85	.85	.85	....	.85	....	.85	.85	..	.77	.77	.76	.76	.85	.85
21-21.9	.86	.86	.85	....	.86	....	.85	.86	.85	.79	.79	.77	.77	.85	.85
22-22.9	.87	.87	.85	....	.87	....	.85	.87	.85	.81	.81	.78	.78	.85	.85
23-23.9	.88	.88	....	....	.88	....	.85	.88	.85	.83	.83	.79	.79	.85	.85
24-24.9	.89	.89	....	....	.89	$ .89	.85	.89	.85	$ .85	.85	.80	.80	.85	.85
25-25.9	.90	.90	....	....	.90	.90	.86	.90	.86	.87	.87	.81	.81	.86	.86
26-26.9	.92	.92	....	....	.92	.92	.87	.91	.87	.89	.89	.83	.82	.87	.87
27-27.9	.94	.94	....	....	.94	.94	.88	.92	.88	.91	.91	.85	.83	.88	.88
28-28.9	.96	.96	....	....	.96	.96	.89	.93	.89	.93	.93	.87	....	.89	.89
29-29.9	.98	....	....	....	.98	.98	.90	.94	.91	.96	.96	.89	....	.91	.91
30-30.9	1.00	....	....	....	1.00	1.00	.91	.95	.93	.99	.99	.91	....	.93	.93
31-31.9	1.03	....	....	....	....	1.03	....	....	.95	1.02	1.02	.93	....	....	.95
32-32.9	1.06	....	....	....	....	1.06	....	....	.97	1.05	1.05	.95	....	....	.97
33-33.9	....	....	....	....	....	1.09	....	....	.99	1.08	1.08	.97	....	....	.99
34-34.9	....	....	....	....	....	1.12	....	....	1.01	....	1.11	.99	....	....	1.01
35-35.9	....	....	....	....	....	1.15	....	....	1.03	....	....	1.01	....	....	1.03
36-36.9	....	....	....	....	....	1.18	....	....	1.06	....	....	....	....	....	1.06
37-37.9	....	....	....	....	....	1.21	....	....	1.09	....	....	....	....	....	1.09
38-38.9	....	....	....	....	....	1.24	....	....	1.12	....	....	....	....	....	1.12
39-39.9	....	....	....	....	....	1.27	....	....	1.15	....	....	....	....	....	1.15
40-40.9	....	....	....	....	....	1.30	....	....	....	....	....	....	....	....	....
41-41.9	....	....	....	....	....	1.33	....	....	....	....	....	....	....	....	....
42-42.9	....	....	....	....	....	1.36	....	....	....	....	....	....	....	....	....

*Union Oil Co. also purchases Long Beach Crude and is maintaining the same gravity and price schedule in that field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Dominguez fields, on gravities ranging from 14 degrees to and including 24.9 degrees and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.

All Stocks Increase In November

NEW YORK, Dec. 23.—Stocks of all major petroleum products east of California increased in November, according to returns compiled by the American Petroleum Institute.

Pipe line and tank farm gross domestic crude stocks east of the Rocky Mountains increased 1,777,000 barrels in November, as compared with an increase of 2,763,000 barrels in October, standing at 308,282,000 barrels on Nov. 30.

Total refinery stocks of all products showed a net increase of 1,535,000 barrels during November, compared with a decrease of 63,000 barrels in October, at plants covering 88 per cent of the operating capacity east of California.

Gasoline stocks gained 621,000 barrels during November, to 18,370,000 barrels, compared with a gain of 83,000 barrels in October.

Kerosene stocks gained 362,000 barrels, to 5,872,000 barrels. Gas and fuel oil stocks gained 612,000 barrels and lubricating oil stocks, 130,000 barrels.

Domestic crude oil stocks at refineries decreased 443,000 barrels, as compared with an increase of 341,000 barrels in October.

"So's Your Oil Man"—Given At Hi-Jinks Party

LOS ANGELES, Dec. 24.—Four hundred and fifty oil men, supply men and others interested in the petroleum industry gathered at the Ambassador hotel in Los Angeles Friday noon for the annual Christmas Hi-Jinks party of the Chamber of Mines and Oil. More would have been present, but the banquet room was full.

The feature of the affair was the presentation of the playlet "So's Your Oil Man" given with all the trimmings by the Wildcats of the Chamber, the organization that is responsible for the entertainment, membership drives, etc. This playlet was given by the Wildcats at the Chicago meeting of the A.P.I., and repeated for the edification of "home folks". It went over big. Dick Guiberson was in the title role, and made good as usual.

It was announced Friday that Chester Brown had been re-elected president of the chamber to serve another year. Other officers include Theodore Martin, first vice president; R. A. Broomfield, second vice president; H. L. Westbrook, treasurer; and Edwin Higgins, secretary. Officers were selected by mail.

Charles Pishney Resigns

TULSA, Dec. 27.—Charles Pishney, economist for the Carter Oil Co., has resigned to enter similar work with the Marland Oil Co. of Texas, being stationed at Fort Worth. Prior to his coming to the Carter, Mr. Pishney was in the Ponca City offices of the Marland.

OIL STOCKS AND FINANCES

National Petroleum News

Pan Am. Omits Dividend; Wickett Resigns

NEW YORK, Dec. 24.—Pan American Petroleum & Transport plans "material development" of its properties in 1928 so it has omitted dividends on both the common stock and class A stock normally due Jan. 20, it has announced. Fred H. Wickett, chairman of the board, has resigned but will continue as president of the Dixie Oil Co., the Standard Oil Co. of Indiana's Mid-Continent producing company. The company's statement follows:

"Pan American Co. is planning a material development of properties in 1928 and notwithstanding the fact that dividend has been earned, it was thought wise to conserve cash to meet requirements for 1928 expansion and such contingencies as may develop during the year.

"F. H. Wickett, chairman of the board, has been in ill health for some time and has requested the board to accept his resignation. Mr. Wickett will continue as president of the Dixie Oil Co., a Standard Oil Co. of Indiana subsidiary."

The development is expected to consist of the properties of the Lago Oil & Transport Co., a Pan American subsidiary, in Venezuela. It also is rumored here that the company may build a refinery at Aruba island, the Lago's tanker loading station. Products from this plant could be moved to both Atlantic and Gulf refineries more cheaply than it can ship crude oil into Destrahan, La., and products up the coast.

Although profits from its Mexican properties are reported to have fallen this year, Mexican Petroleum Co. Ltd., of Delaware declared its usual dividends, payable Jan. 20. Mexican Petroleum Co. is more than 90 per cent owned by Pan American.

Sinclair Crude Oil Co. Refunds Indebtedness

NEW YORK, Dec. 24.—Sinclair Crude Oil Purchasing Co. is refunding its indebtedness by the issue of $42,000,000 10-year 5½ per cent gold bonds, series A, to be dated Jan. 1, 1928. The issue has been oversubscribed, the company announced, at 98½ to yield 5.70 per cent. The underwriting syndicate consisted of the National City Co., Chase Securities Corp., and Blair & Co., all of New York, and the First Trust & Savings bank of Chicago.

H. L. Phillips, president of the crude oil purchasing company, in a letter to bankers said in part:

"Standard Oil Co. of Indiana and Sinclair Consolidated Oil Corp. prior to the execution of the trust agreement under which these bonds are to be issued, are to enter into an oil purchase contract with the company, the payments under which the company will assign to the trustee under the trust agreement for the benefit of the holders of bonds outstanding under the trust agreement. In this contract Standard Oil Co. of Indiana and Sinclair Consolidated Oil Corp. will agree to purchase, at any time on demand of the company or its assigns, the entire amount of crude oil and tankage then owned by the company, for a sum in cash equal to not less than 105 per cent of the principal amount of all bonds then outstanding under the trust agreement; each of the two purchasing companies is to agree to purchase one-half the crude oil and tankage for one-half the required sum.

"As of Nov. 30, 1927, the company owned, 37,474,000 barrels of crude oil of a total market value of $52,003,026 which, together with $3,071,032 cash and $10,803,999 accounts receivable, aggregated $65,878,057 quick assets, equivalent to 136% of the sum of current liabilities (other than the 3-year 6 per cent gold notes) plus the principal amount of this issue of bonds. In addition the company has invested about $16,000,000 in fixed property consisting chiefly of real estate, storage tanks and tank equipment."

White Eagle Cuts Rate As Earnings Fall

KANSAS CITY, Dec. 24.—Lower earnings of oil companies this year are reflected in the reduction of the dividend of the White Eagle Oil & Refining Co. from 50 cents to 25 cents a share for payment Jan. 20. The company is in good financial condition, it said in a statement and was accumulating an inventory in anticipation of better prices. The statement follows:

"Reduction in dividend at this time is caused by distressed condition of the industry, under which oil companies are unable to sell their products at a price that will net a satisfactory margin of profit. It is the thought of directors that it is to the benefit of stockholders that the company conserve its earnings in excess of the dividend at the rate just declared, until such time as conditions improve and earnings justify the regular dividend.

"Early this year company's inventory was reduced to the minimum in anticipation of lower values and now during this period of depression a larger inventory is being accumulated in expectation of increased prices.

"Financial position is good. It has no bank loans and the ratio of current assets to current liabilities is approximately six to one. Company's sales have increased in volume over last year and the business is being operated economically.

"Conditions have improved in the agricultural districts throughout our sales territory and outlook for next year is promising. Disturbed condition of the industry, caused by overproduction of crude oil and its products, has run for a longer period than was expected and it may last a few months longer before a permanent improvement takes place. The position of the company is such that it should benefit quickly."

Richfield Oil Reports Increase in Assets

CLEVELAND, Dec. 24.—Increase of more than $4,000,000 in assets is shown in the first nine months of this year by the Richfield Oil Co. of California. The increase is mostly in property valuation after depreciation and in inventory. The balance sheets of Dec. 31, 1926, and Sept. 30, 1927, compare:

ASSETS

	Sept. 30, '27	Dec. 31, '26
*Oil lands, prop., equip., etc.	$45,551,693	$43,315,446
Sundry invest and adv.	92,199	189,717
Employ stk subs	314,421	175,401
Prepaid exp. & other def chgs	875,729	917,494
Cash	818,268	1,033,334
Notes and accounts rec	3,628,242	3,361,760
†Employ stk subs	425,000	.....
Marketable bonds	.....	40,000
Inventories	5,611,514	4,271,079
Total	$57,317,066	$53,304,231

LIABILITIES

Pfd stock (par $25)	$5,833,500	$833,500
Common stock	‡29,224,144	28,290,650
Surplus	$3,807,245	2,994,303
Minority interests	8,181	531,297
Gold bonds	11,650,000	12,000,000
Gold notes of United Oil Co.	1,000,000	2,136,000
Deferred payments	210,640	234,482
Notes payable	1,855,342	1,253,351
Accounts payable	2,185,158	2,692,029
United Oil Co., gold notes	427,000	.....
Current purch obligations	.....	714,700
Sundry accounts payable	.....	86,626
State gasoline tax	892,540	667,869
Accrued for int, wages, etc	223,316	579,979
Federal income tax	.....	289,445
Total	$57,317,066	$53,304,231

*After depreciation. †Collectable within one year. ‡Represented by 1,168,965 shares, par $25. §Subject to federal income tax in 1927.

Transactions in Oil Shares on New York Stock Exchange

1926 High	1926 Low	1927 High	1927 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Sales	Week Ended Dec. 24 First	High	Low	Last	Change
32⅞	24¼	37⅝	27⅝	(sh) 916,675	N.P.	Amerada Corp.	50cQ	Oct. 30, 27	29,500	30⅜	31¼	30	31⅛	+ 1⅛
74	39⅞	76¼	35½	(sh) 209,180	N.P.	American Republics	.....	.....	149,000	71½	82½	71½	78⅝	— 2⅞
59½	44¾	50¼	38⅝	$ 56,000,000	$25	Associated Oil	50cQ	Dec. 24, 27	260	39½	40	39	40	— 2
128⅜	97	131⅜	106¾	50,000,000	100	Atlantic Refining	$1Q	Dec. 15, 27	9,200	109	110⅞	108	109	— ⅜
120	115½	118½	111½	20,000,000	100	do pfd	$1.75Q	Nov. 1, 27	300	117	117	117	117	0
33½	23½	35½	20¾	25,000,000	25	Barnsdall Corp. A	s62½cQ	Nov. 15, 27	32,300	25⅜	26	25⅛	25⅜	+ ⅛
29½	22½	32½	20½	3,842,400	25	do B	s62½cQ	Nov. 15, 27	100	25	25	25	25	+ ½
68⅛	29¾	32⅞	20	51,523,950	25	California Petroleum	25cQ	Dec. 1, 27	21,500	24¼	24⅝	23¼	24	0
94¼	50	96¾	65	24,355,000	100	General Asphalt	.....	.....	25,900	82½	83½	80½	81¼	+ ¾
140½	94⅞	144⅞	107¼	6,874,200	100	do pfd	$1.25Q	Dec. 1, 27	200	126	126	126	126	+ 2½
72	50¼	175⅜	60⅛	25,000,000	100	Houston Oil	.....	.....	69,500	163	164½	158	158⅜	— ⅝
84	19⅝	32¾	17⅝	(sh) 500,000	N.P.	Independent Oil & Gas	25cQ	Oct. 31, 27	13,600	26⅜	26⅞	25½	25⅞	— ½
13¾	7¼	12⅛	7½	$ 3,280,340	$10	Indian Refining	.....	Dec. 15, 20	9,600	8½	10	8½	9¼	+ ¾
12½	8	12	7¼	4,550,110	10	do ctfs	.....	.....	5,500	8	9	8	8⅜	+ ⅜
104	90	112	99	2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
24⅛	19⅛	36⅞	20½	(sh)3,992,067	N.P.	Lago Oil & Transport	75cQ	Aug. 1, 27	9,600	34⅞	36	34⅛	34⅛	— ⅛
19⅞	12	18⅝	10	(sh) 1,131,290	N.P.	Louisiana Oil Refining	.....	.....	16,100	10½	10⅞	10½	10⅜	+ ⅛
98	93	97	85¼	$ 4,000,000	$100	do pfd	$1.75Q	Nov. 15, 27	220	88¼	88½	88¼	88½	+ ¼
28⅞	16½	22¾	12	(sh) 330,000	N.P.	Maracaibo Oil	.....	.....	5,000	15	16½	15	15	0
63¾	49¼	58½	31	(sh) 2,316,401	N.P.	Marland Oil Co.	.....	Mar. 31, 27	78,900	36	36¾	35¼	35⅜	— ¼
250	225	250	200	$ 45,942,800	$100	Mexican Petroleum	$3Q	Oct. 20,	10	250	250	250	250	+25
...	...	...	...	12,000,000	100	do pfd	$2Q	Oct. 20, 27	.....	.....	.....	.....	.....	.....
13¾	6	9¼	3	(sh) 945,839	N.P.	Mexican Seaboard	.....	Nov. 15, 24	5,000	4¾	5	4⅛	4½	— ⅛
37	27½	39⅜	25½	(sh) 1,357,800	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 27	68,100	28⅛	29⅞	28	29¼	+ 1¼
104¼	90	105	97	$ 6,718,000	$100	do pfd	$1.75Q	Dec. 1, 27	600	104	104½	104	104½	— ½
2½	⅜	3⅜	1⅝	24,435,000	10	Middle States	.....	July 1, 23	12,500	2⅛	2¼	2	2	— ¼
1⅝	½	2¼	1⅛	5,356,660	...	do ctfs	.....	.....	2,200	1⅜	1⅜	1¼	1⅜	— ⅛
2¼	1	1⅞	1	(sh) 3,500,000	N.P.	Pacific Oil	.....	.....	1,400	1⅛	1¼	1⅛	1⅛	0
76½	56½	65⅞	43¼	$ 48,807,500	$ 50	Pan American P. & T.	$1Q	Oct. 20, 27	22,700	44¾	44¾	40⅛	41	— 3½
78⅝	56⅞	66⅜	43½	121,094,850	50	do B	$1Q	Oct. 20, 27	180,700	44¼	44½	40¼	41¼	— 2¾
46	30	37⅞	16¾	(sh) 400,000	N.P.	Pan American Western B.	.....	Jan. 30, 27	4,800	21	21	20⅛	20½	0
62	4½	18⅞	8	(sh) 198,770	N.P.	Panhandle P. & R.	.....	.....	9,400	16⅞	18⅛	16½	17	+ ⅛
99¾	51	83¾	58¾	$ 2,935,200	$100	do pfd	.....	July 2, 23	1,200	79¾	82	79¾	80	+ 2
57⅜	40	60¼	36½	(sh) 2,406,796	N.P.	Phillips Petroleum	75cQ	Jan. 3, 28	53,100	41⅜	41⅞	40⅞	41⅜	+ ⅜
1⅞	⅛	1⅜	½	$ 29,622,925	$ 25	Pierce Oil Corp.	.....	.....	2,300	⅝	⅝	½	⅝	0
27⅜	11⅜	24	13½	15,000,000	100	do pfd	....	Feb. 1, 22	.....	.....	.....	.....	.....	.....
7	2¼	5½	2½	(sh) 2,500,000	N.P.	Pierce Petroleum	.....	.....	7,600	3⅛	3⅜	3	3¼	+ ⅛
20¾	11	33⅞	16¾	1 37,450,850	$50	Producers & Refiners	.....	Sept. 15, 23	6,800	25¼	26⅜	25	26⅛	+ ⅜
41¾	30¾	50	36⅞	2,845,350	50	do pfd	.....	May 1, 25	50	41¾	43	41¾	41¾	+ ⅛
31	25¼	33½	25	75,939,250	25	Pure Oil Co.	37½cQ	Dec. 1, 27	16,200	26⅜	26⅝	25¾	26	— ⅛
112¾	106	115½	111⅜	13,000,000	100	do 8% pfd	$2Q	Jan. 2, 28	.....	.....	.....	.....	.....	.....
57⅝	47⅜	58	45	(sh) 616,605	13.40	Royal Dutch, N. Y. shares	$1.80	Aug. 2, 27	2,800	47⅜	48½	47¼	47⅜	+ ⅛
40⅝	40½	47⅞	41⅜	(sh) 78,389	F2	Shell Transport & T.	$1.45	July 22, 27	200	43	43⅛	43	43⅛	+ ⅛
31	24	31¾	24⅝	(sh) 10,000,000	N.P.	Shell Union Oil	35cQ	Sept. 30, 27	9,200	25¾	26	25⅜	25⅝	+ ⅛
114	103	111	107½	$ 18,350,400	$100	do pfd	$1.½Q	Nov. 15, 27	.....	.....	.....	.....	.....	.....
28⅜	15⅜	25¼	14¼	7,208,080	10	Simms Petroleum	.....	Apr. 1, 27	41,800	26	26⅜	23⅜	24⅛	— 1⅜
24⅞	16¾	22⅜	15	(sh) 4,501,339	N.P.	Sinclair Consolidated	.....	May 31, 24	7,900	21¾	22¼	20¼	21	0
99½	90	104½	97	$ 16,907,000	$100	do pfd	$2Q	Nov. 15, 27	1,500	104½	*104½	102¼	103	— ⅛
37½	26⅜	37⅜	24⅛	27,396,590	25	Skelly Oil Co.	50cQ	Dec. †15, 27	9,800	26½	27½	26½	26½	— ½
63⅜	52⅜	60¾	50⅜	(sh) 13,016,434	N.P.	S. O. California	62½cQ	Dec. 15, 27	20,400	55½	56⅜	55⅛	55½	+ ¼
46⅜	37⅜	43¾	35½	$ 606,243,050	$25	S. O. New Jersey	‡25cQ	Dec. 15, 27	35,400	39⅜	40	39½	39⅞	+ ⅛
33¼	32½	34⅛	29¾	424,348,275	25	S. O. New York	40cQ	Dec. 15, 27	25,600	31⅞	32	31½	31¾	+ ⅛
41⅝	30⅛	34⅛	30	(sh) 1,171,508	N.P.	Sun Oil	‡25cQ	Dec. 15, 27	2,800	32	32½	32	32½	+ ½
...	...	101⅛	99	$ 5,000,000	$100	do pfd	$1.50Q	Dec. 1, 27	400	...	101	100⅝	100⅝	— ⅛
5¼	1	6½	3⅛	(sh) 1,121,368	N.P.	Superior Oil Corp	.....	Dec. 20, 20	2,600	3¼	3⅜	3⅛	3¼	0
57⅞	53⅛	58	45	$ 180,428,225	25	The Texas Corp.	75cQ	Jan. 1, 28	26,900	53¾	52¾	52½	52¾	— ¼
19½	12	18⅞	12	8,380,340	10	Texas Pacific Coal & Oil	15cQ	Jan. 3, 28	20,700	14⅜	14¾	14	14⅛	+ ⅛
39¼	37	29½	19	(sh) 2,168,264	N.P.	Tide Water Oil Co.	20cQ	Dec. 31, 27	2,200	23¼	24	22¾	23⅛	+ ⅛
103	87¼	90½	85	$ 20,705,200	$100	do 5½ pfd	$1.25Q	Nov. 15, 27	1,100	86⅜	87	86¼	87	+ ⅝
....	....	19⅛	15⅜	(sh) 4,795,934	N.P.	Tide Water Associated	.....	Aug. 1, 27	66,200	17¼	17⅜	17	17⅜	+ ⅛
....	....	90¾	85	$ 72,795,900	100	do pfd	$1.50Q	Jan. 3, 28	1,300	88	88½	87½	87½	— ¾
5½	3	10¼	3¾	(sh) 3,742,029	N.P.	Transcontinental Oil	.....	.....	48,500	9⅝	9⅝	9	9	— ½
58⅜	37¼	56½	39⅝	$ 40,759,475	$25	Union Oil of California	50cQ	Nov. 10,27	6,700	45½	46	44¼	44¼	— 1
120⅜	84¼	123½	94	30,734,000	100	Union Tank Car Co.	$1.25Q	Dec. 1, 27	3,000	123	127½	123	126½	+ 3½
....	....	34½	24⅛	(sh) 240.000	N.P.	Warner Quinlan	50cQ	Jan. 3, 28	12,500	32½	32⅞	30⅞	31¾	+ ¾
29¾	25⅛	27½	21	(sh) 490,000	N.P.	White Eagle Oil & Refining	50cQ	Oct. 20, 27	4,600	21¼	21¼	20¾	20⅞	— ½

*New High †New Low xEx-Dividend ‡Also extras s-Stock Total Sales 1,225,040

Cleveland Stock Market

December 23

	Par Value	Bid	Asked	Last Sale
Canfield Oil Co.	100	...	...	...
do pfd.	100	x100	...	100
Fred G. Clark	10	2	5½	2
National Refining Co.	25	37	38	35
do pfd.	100	x130	...	132
Paragon Refining Co.	25	9	10¼	9½
do pfd.	100	...	106½	107½

x Ex-Dividend

Oil Dividends

	Amount	Payable	Stock of Record
Amerada Corp. q.	50c	Jan. 31	Jan. 16
Mexican Pet. q.	$3	Jan. 20	Dec. 31
do pfd. q.	$2	Jan. 20	Dec. 31
New Bradford q.	12½c	Jan. 16	Dec. 31
Richfield Oil q.	25c	Feb. 1	Jan. 5
do pfd.	43¾c	Feb. 1	Jan. 5
West Coast Oil pfd. q.	$1.50	Jan. 1	Dec. 23
do extra	$3	Dec. 30	Dec. 23
White Eagle q.	25c	Jan. 20	Dec.

PITTSBURGH STOCK EXCHANGE

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Sales	Week Ended Dec. 23 First	High	Low	Last	Ch'ge
8½	5¾	9⅛	6⅞	$ 10	Arkansas Nat. Gas.	1,020	9⅛	9⅛	8¾	8¾	— ½
90½	79¾	98⅝	80⅞	100	Columbia Gas.	.....	....	....	....	....	.....
101¾	95	107¾	100	100	do pfd.	.....	.....	.....	.....	.....	.....
17	12½	15	7½	10	Devonian Oil	100	7½	8	7½	8	+ ½
116½	112	117½	115	100	Duquesne Lt. 7% pfd.	.....	.....	.....	.....	.....	.....
10	5⅛	12¼	6	N.P.	Houston Gulf Gas.	440	11½	12	11½	12	+ ¾
46	39	59¼	37¼	$25	Lone Star Gas.	3,095	54½	54¾	53½	53½	— 1
47⅛	33⅛	22¾	22¼	25	Ohio Fuel Corp.	.....	.....	.....	.....	.....	.....
47½	42	21⅝	21	...	do ctfs.	.....	.....	.....	.....	.....	.....
6¾	5	6	5	...	Ohio Oil & Gas.	.....	.....	.....	.....	.....	.....
34	21	21	21	25	Oklahoma Nat. Gas.	.....	.....	.....	.....	.....	.....
21	19¼	23⅝	20¼	...	do ctfs.	.....	.....	.....	.....	.....	.....
5⅜	3½	3⅞	3	5	Pittsburgh Oil & Gas	148	3¾	3¾	3¾	3¾	— ⅛
10	7½	8	5½	10	Salt Creek Cons.	675	6½	6⅝	6½	6½	0
27	8	26½	17	10	Tidal Osage	100	20	20	20	20	— 1
45	40	43	33	N.P.	Waverly Oil Wks. "A"	.....	.....	.....	.....	.....	.....

PITTSBURGH CURB EXCHANGE

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Sales	Week Ended Dec. 23 First	High	Low	Last	Ch'ge
3⅜	2½	3½	2¾	$ 5	Columbia Synd.	.....	....	....	....	....	.....
20	.06	.18	.18	5	Duquesne Oil.	.....	....	....	....	....	.....
...	...	...	...	....	Forest Oil.	.....	....	....	....	....	.....
91½	85	95	88	25	Gulf Oil Corp.	.....	....	....	....	....	.....
79	79	105	93	100	Houston Gulf Gas pfd.	.....	.....	.....	.....	.....	.....
12	7½	10¾	5½	N.P.	Leonard Oil & Dev.	10,000	5½	5½	5½	5½	0
30¼	29	32	31¼	$ 25	Oklahoma Gas.	.....	....	....	....	....	.....
2	.15	2.70	.30	10	Omar Oil & Gas.	1,900	.30	.55	†.30	.55	— .10
....	....	9⅞	9⅞	....	Penn. Oil & Gas.	.....	....	....	....	....	.....
...	...	2¼	1¾	....	Pittsburgh Oil Dev.	.....	....	....	....	....	.....
2	1¼	2¼	2¼	5	do pfd.	.....	.....	.....	.....	.....	.....
33½	20	31	19	10	Plymouth Oil.	150	21½	21½	21	21	— 1¾
7	3	6	5	5	States Oil.	.....	....	....	....	....	.....
3½	2	3⅛	1½	1	Texon Oil & Land.	6,000	2¾	3	2⅛	3	+ ¼
25¾	8	23¾	18	10	Tidal Osage (non-vtg).	.....	....	....	....	....	.....

*New high †New Low xEx-Dividend

Standard Oil Stock Traded in New York

1926 High	1926 Low	1927 High	1927 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Dec. 24 Sales	First	High	Low	Last	Change
21	16¼	21⅝	17⅜	£ 4,000,000	£1	Anglo-American Oil	60¹¹⁄₁₆c	May 31, 27	200	19⅜	19¾	19¼	19¼	+ ¼
20¼	16½	20¼	17⅜	.....	£1	do ctfs. non-voting	.....	.....	400	18⅝	18⅞	18⅝	18⅝	— ¼
2¼	.75	3¾	.75	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	300	1⅜	1⅜	1¼	1¼	— ⅛
5	2⅛	6½	2⅛	$ 000,000	$ 10	do pfd.	.....	.....	.....	...	...	...	...	...
75	65	69	50	1,000,000	25	Borne Scrymser	‡$1S.A.	Oct. 15, 27	150	57	59	57	59	+ 2
59½	42	60	45	10,000,000	50	Buckeye Pipe Line	$1Q	Dec. 15, 27	100	57⅛	57⅛	57⅛	57⅛	+ ⅛
82½	65	126	76½	3,000,000	25	Chesebrough Mfg.	$1Q	Dec. 28, 27	.....	...	...	...	...	...
25⅛	17½	22¾	16¼	38,805,260	10	Continental Oil	25cQ	Sept. 15, 27	17,000	18½	19¼	18¼	19⅛	+ ⅝
137	102	137	89	3,000,000	100	Cumberland Pipe Line	$2Q	Dec. 15, 27	100	90	90	90	90	— 3
63¾	43	68½	47	5,000,000	100	Eureka Pipe Line	$1Q	Nov. 1, 27	100	66½	67	66½	67	+ 1
32½	9¾	13½	6	16,000,000	100	Galena Signal Oil	.....	June 30, 25	1,500	4½	4½	3½	4⅛	+ ⅝
94½	35	59¾	25	4,000,000	100	do new pfd	.....	June 30, 26	70	28	28	25¼	27¼	— ¾
97½	40	60¾	36	2,000,000	100	do old pfd	.....	June 30, 26	240	40	40	37	37	— 3
99¾	52	68½	54	73,117,577	25	Humble Oil & Refining	‡30cQ	Jan. 1, 28	14,400	65½	68½	65½	66¾	+ 1⅝
144½	125¼	182	123¾	20,000,000	100	Illinois Pipe Line	$6S.A.	Dec. 15, 27	750	179½	180½	178	178	+ 2
39¾	32½	64¾	37¾	(sh) 6,491,952	N.P.	Imperial of Canada	‡25cQ	Dec. 1, 27	3,900	59½	59¾	58½	59	— ⅞
70	54¼	94½	61	$ 5,000,000	$50	Indiana Pipe Line	‡$1Q	Nov. 15, 27	300	76¼	77	75¾	77½	+ 1½
35¼	28¾	39	28	(sh) 7,118,138	N.P.	International Petroleum	25c	Nov. 15, 27	17,600	36½	37¼	36⅛	37	— ⅛
20¾	12½	24	13½	$ 6,362,500	$12½	National Transit Co.	25cQ	Dec. 15, 27	3,000	21¼	21¼	20½	20¾	— 1
51½	27⅜	44½	31¼	5,000,000	100	New York Transit	.....	July 15, 26	150	38½	38½	38½	38½	0
80½	64	100	70	4,000,000	100	Northern Pipe Line	‡$3S.A.	Jan. 1, 28	300	91	91	90	90	— 2¾
67⅝	55¾	67⅞	52	60,000,000	25	Ohio Oil Co.	‡50cQ	Dec. 15, 27	3,700	66	66½	64⅞	65¼	+ ¼
24¾	15	39	12	10,000,000	25	Penn Mex. Fuel	.....	May 21, 25	2,900	33¼	39	32	39	+ 5¾
60¼	48	55½	45¾	60,000,000	25	Prairie Oil & Gas	.....	Aug. 31, 27	13,400	48⅝	50½	48⅝	50	+ 1
137½	122¼	190	132	81,000,000	100	Prairie Pipe Line	$2.50Q	Oct. 31, 27	3,050	182¾	189	182½	188	+ 5
220	184½	201½	175½	4,000,000	100	Solar Refining	$5S.A.	Dec. 20, 27	.....	...	...	...	...	...
27	21	27¼	15½	5,000,000	50	Southern Pipe Line	$2	Dec. 1, 27	400	21½	21½	21	21½	0
50	34½	41½	34½	20,000,000	25	South Penn Oil	50cQ	Dec. 31, 27	1,200	37¼	38	37⅛	37⅞	+ ⅞
57	49	111½	111⅝	3,500,000	100	South West Pa. Pipe Lines	‡$1Q	Dec. 31, 27	.....	...	...	...	...	...
70½	60½	81½	64¾	228,415,463	25	S. O. Indiana	‡62½cQ	Dec. 15, 27	17,100	80¾	80¾	78¼	78¾	— 1½
36½	16½	20⅞	15½	8,000,000	25	S. O. Kansas	.....	June 16, 24	1,100	15½	15½	14⅝	14¾	— ¾
134¾	108	130	111½	17,012,599	25	S. O. Kentucky	$1Q	Dec. 31, 27	2,200	123½	123½	122	122½	0
51⅜	42	49½	40	4,559,850	25	S. O. Nebraska	62cQ	Dec. 20, 27	1,100	41¾	42½	41½	41¾	+ ¾
672	288	86¾	73	14,000,000	25	S. O. Ohio	62½cQ	Jan. 2, 28	150	77¼	78½	77¼	78½	+ 1½
120½	116½	122	117¼	7,000,000	100	do pfd.	$1.75Q	Dec. 1, 27	70	120	120¼	120	120¼	+ 1¼
23	15½	21	14½	861,466	25	Swan Finch Co.	.....	Nov. 1, 19	200	18	18	17½	17½	— 1½
109¾	90¼	149⅞	95¼	62,470,800	25	Vacuum Oil	‡50cQ	Dec. 20, 27	5,300	142½	144	140	141⅞	— ⅛

*New high †New low xEx dividend ‡Also extras.

Lobitos Oilfields, Ltd.—Interim dividend is omitted.

New York Curb Bonds

Week Ending Dec. 23

	High	Low	Last	Ch'ge
Beacon Oil 6s '36	102¼	101¼	102¼	+1
Cities Service 5s '66	91	90¾	91	0
Cities Service 6s '66	103¼	103	103¼	0
Cities Service G 5½s '42	95⅜	95⅛	95⅜	+⅛
Empire Oil 5½s '42	94	93⅛	93⅜	— ⅜
Gulf Oil 5s '37	101½	101	101½	+ ⅜
Independent Oil 6s '39	96⅛	96	96	+ ⅛
Phillips Pet. 5¼s '39	95⅛	94⅛	94⅛	— ½
Richfield Oil 6s '41	98¾	97¾	97¾	—1
S. O. of N. Y. 6½s '33	104¼	104	104	— ¼
Sun Oil 5½s '39	102	102	102	0
Trans. Cont. Oil 7s '30	114½	112¼	113½	— ¼
Warner-Quinlan 6s '42	101½	100¼	101	— ½

New York Bonds

Week Ending Dec. 23

	High	Low	Last	Ch'ge
Amer. Rep. deb. 6s	102¼	101¾	102	— ¼
Assoc. Oil gold 6s	103¼	102¾	103¼	0
Atlantic Refg. deb. 5s	102½	102½	102½	+ ⅛
Barnsdall Corp. 6s	101⅜	100¼	100¼	— ¼
Barnsdall Corp. 6s ex-war.	90⅛	89	89	— ⅝
Cal. Pet. 5s	96	95⅛	95⅛	— ⅞
Cal. Pet. 5½s	100¼	100	100	— ½
General Asphalt 6s	109	108½	108½	— ¼
General Pet. 5s	102¼	102	102¼	+ ¼
Humble Oil & Refg. 5½s	103	102½	102⅝	— ¼
Humble Oil 5s	100⅜	100⅛	100¼	+ ⅛
Mid-Cont. Pet. 6½s	105⅛	105	105	— ¼
Pan Amer. P & T 7s	105¼	105¼	105¼	— ¼
Pan Amer. P & T 6s	103	102⅝	102⅞	— ⅛
Pan Amer. P & T 6s	94	93	93⅝	+ ⅜
Pierce Oil deb. 8s	104⅝	104¼	104½	+ ¼
Prod. & Ref. 8s ex-war.	111½	111	111¼	+ ¼
Simms Pet. cvt. 6s	109⅜	107⅜	100¼	+ ¼
Sinclair Con. Oil col. 7s	100½	100	100	0
Sinclair Con Oil con 6½s	97	96	97	+1¼
Sinclair Con. Oil 6s D	98	97¼	97	+ ½
Sinclair Crude Oil 6s	100	100	100	— ¼
Sinclair Pipeline 5s	94¼	92¾	93½	+1⅜
Skelly Oil 5½s	95¼	94⅜	95⅛	+ ¼
S. O. of N. Y. 4½s	97½	97¼	97½	+ ⅛
S. O. of N. J. deb. 5s	103⅜	103½	103½	0
Union Oil of Calif. 6s-A	109½	109½	109½	0
Union Oil of Cal. 1st 5s	91	91	91	— ¾
Union Oil of Cal. 5s-C	100	99¼	99¼	— ⅝
White Eagle 5½s	94¾	94½	94½	0

New York Curb Market

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Week Ended Dec. 24 Sales	First	High	Low	Last	Change
6¾	45	2¼	.55	$5	Amer. Con. Oilfields	23,200	80	81⅛	80	81⅛	+ ⅛
14½	4	7½	2¾	N.P.	Amer. Maracaibo	8,000	3⅜	3½	2¾	2⅞	— ½
8⅜	5⅜	9¾	6¾	$10	Arkansas Nat. Gas	200	9¼	19	18⅞	18⅞	— ⅛
20⅜	14⅜	20½	15½	N.P.	Beacon Oil	.....	...	...	...	...	...
85¼	60	49	20½	N.P.	British American	100	35½	35½	35½	35½	+ ⅜
28⅜	9¼	28¼	14⅜	25c	Carib Syndicate(new)	10,600	18⅛	20½	18⅛	19½	+ ⅝
...	...	26	16½	...	do ctfs. of deposit	.....	...	...	...	...	...
51	37½	58¾	40¼	$20	Cities Service	19,000	52¼	54⅝	52½	54⅜	+ 2⅛
92½	82⅜	95⅜	87	100	do pfd	1,400	94⅝	94⅞	94½	94¾	— ⅛
8⅜	7⅜	8⅞	7⅜	10	do pfd. B	200	8⅞	8⅞	8⅞	8⅞	0
25¼	19	29¼	22½	10	do banker's shares	.....	...	...	...	...	...
3½	1¾	3½	1¼	$1	Colombia Syndicate	2,700	1½	1½	1½	1¾	— ⅛
10½	8½	9½	6¾	10	Consolidated Royal	200	6¾	6⅞	6¾	6¾	— ⅛
16	10	14⅞	9½	N.P.	Creole Syndicate	22,500	9⅞	10	9½	10	+ ⅛
7⅜	1⅛	3	.50	N.P.	Crown Central	2,100	69	99	65	81	+12
8½	½	12	4	...	Darby Petroleum	100	8½	8½	8½	8½	0
....	....	11½	5	...	do trust ctfs.	.....	...	...	...	...	...
4	1¾	2½	.75	N.P.	Derby Oil & Refining	400	.75	71½	.75	71¼	+ ½
19	13	16¾	6⅛	N.P.	do pfd	1,600	6	8½	4	8½	+ 2½
7⅛	2½	3¾	1	N.P.	Gibson Oil	3,100	2	2	1¾	1⅞	— ⅛
2	.63	1⅜	.40	N.P.	Gilliland ctfs.	400	.50	.55	.55	.55	— .5
98	82	105⅞	86¼	$25	Gulf Oil Corp.	39,300	104¾	115	104½	114	+10
3⅜	1	2¼	1⅛	N.P.	Kirby Petroleum	200	1½	1½	1½	1½	0
12¼	5¾	10⅞	5⅜	N.P.	Leonard Oil & Dev.	800	5½	5½	5¼	5½	0
27	20	27½	20	N.P.	Lion Oil & Refg.	200	20½	20½	20½	20½	— ½
46	31	59⅜	37	$25	Lone Star Gas	2,900	55	55	54	54	— ¼
2¾	2	2⅞	.87	1	Magdalena Synd.	3,400	1⅜	1⅝	1⅜	1½	0
5½	1⅞	3	1¾	10	Mexican-Panuco	.....	...	...	...	...	...
1¾	1¼	1½	1	1	Mountain & Gulf	1,800	1⅜	1⅜	1⅜	1⅜	0
26	23	29	22¾	10	Mountain Producers	45,600	26⅜	29	25⅞	28¾	+ 3
6¾	5	5¼	4⅝	5	New Bradford	4,000	5⅛	5⅞	5	5⅞	+ ¾
11¾	2	6¾	4	10	New England Fuel	.....	...	...	...	...	...
17	9⅜	16	9¼	1	New Mex. & Ariz.	1,900	10	10½	9⅜	9⅜	— ⅜
17	8	13¼	9	25	New York Oil	3,500	11⅛	12½	11⅛	12½	+ 1⅜
12¼	8¾	12⅝	10	N.P.	North Cent. Texas	1,700	10½	11	10½	11	+ ¾
44¾	33	....	....	$25	Ohio Fuel Corp.	.....	...	...	...	...	...
33	28½	27½	21¼	...	Okla. Nat. Gas ctfs.	.....	...	...	...	...	...
10½	5⅞	9⅜	1¾	N.P.	Pandem	17,300	5¼	5⅜	5	5⅛	— ⅛
12¼	11⅜	12⅜	7	N.P.	Pantapec Oil	.....	...	...	...	...	...
2¾	.20	.37	.25	N.P.	Peer Oil Corp.	.....	...	...	...	...	...
22¾	12	13½	5⅛	$10	Pennok Oil	200	5⅜	5⅞	5½	5½	— ⅛
38	14⅛	24⅜	7	25	Red Bank Oil	100	15½	15½	15½	15½	+ 1½
30¼	12	15¼	2	N.P.	Reiter-Foster	1,900	6⅜	6¾	6	6	— ¾
27½	22	29⅜	15	$25	Richfield Oil	.....	...	...	...	...	...
7½	4½	7	4½	N.P.	Ryan Consolidated	800	5½	5½	5	5	— ⅜
10	7½	8	6	$10	Salt Creek Cons.	800	6½	6¾	6½	6¾	— ⅛
36	26⅞	34⅜	27¼	10	Salt Creek Prod.	28,600	32⅝	34⅜	32⅝	34¼	+ 1¾
4⅜	1⅜	7	2	5	Savoy Oil	.....	...	...	...	...	...
27	7⅝	26⅛	17	10	Tidal Osage	2,700	20⅛	20¾	19⅛	20¾	— ⅜
25¾	7⅜	23¾	15	10	do non-voting	2,400	19	19⅛	18	18½	— ½
...	....	92	63½	100	Transcontinental pfd.	100	92	92	89¾	90	0
3	4⅛	7⅛	4¼	5	Venezuelan Petrol.	12,600	4¾	5½	4½	5⅛	+ ½
31⅛	22	32⅝	20⅝	N.P.	Wilcox Oil & Gas	400	21	21½	21	21½	+ ⅝
9½	4⅜	8	4¾	$1	Woodley Petroleum	700	6¼	6¼	6	6	— ⅛

*New High †New Low xEx Dividend

General Miller Dies At Franklin, Pa.

FRANKLIN, Pa., Dec. 22.—General Charles Miller, founder of the Galena Signal Oil Co. and president of the company until 11 years ago, died at his home in Miller Park here Dec. 20. He was one of the pioneer Pennsylvania producers. General Miller was 84 years old.

In addition to his oil interests, General Miller was president of the Franklin Railway Oil Co.; Lake Erie, Franklin & Clarion Railroad; and of the General Manifold Printing Co. He built a hotel, developed Miller Park, a residential section here, and 25 years ago operated the Miller-Sibley Stock Farm. At one time he taught the Miller Bible Class which had 1,000 members.

General Miller had been in a coma for several days. He is survived by three sons and two daughters, J. French Miller, Secretary-treasurer of the Galena Signal Oil Co.; Clarence Miller, Franklin; Major C. J. S. Miller, of France; Mrs. Metta Miller Rockester, Tarrytown, N. Y.; and Mrs. S. A Megeath, Ardsley-on-the-Hudson, N Y.

$100,000,000 is First Half Gasoline Tax Bill

WASHINGTON, Dec. 27.—In the first six months of 1927 gasoline taxes amounting to more than $100,000,000 were collected. All but four states and the District of Columbia levied taxes in that period.

The tax was collected on nearly 4,000,000,000 gallons of gasoline, according to a report made by the Bureau of Good Roads of the Department of Agriculture. Illinois, Massachusetts, New York and New Jersey did not collect taxes. The department's estimate is that in those states 947,000,000 gallons of gasoline were used.

California, using more than 450,000,000 gallons of gasoline, collected the largest tax, more than $9,000,000. That whole fund was devoted to roads, according to the bureau's report. Other states collecting more than $5,000,000 were Ohio, with more than $7,500,000; and Pennsylvania, with more than $6,000,000.

The Hays Corp., Michigan City, Ind., has published catalogue RL27 on the Hays CO_2 and draft recorder for the boiler room to eliminate fuel waste. Some of the outstanding features of this device are neat appearance, accuracy, simplicity, and ruggedness. It is automatically controlled and water or motor operated. The company also claims there is no soot trouble, the chart is easily readable and that it is economical to operate.

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Positions Wanted

FIFTEEN YEARS EXPERIENCE OIL BUSINESS. Qualified with a practical knowledge of distribution in all branches from tank wagon to sales executive. Wide acquaintance among jobbing trade particularly west and middle west. Address Box 993.

Situations Open

LUBRICATING OIL ENGINEER

Canadian refinery wants lubricating oil engineer, to act as assistant to general sales manager and have complete charge of Lubricating Oil Division. Must have experience in selling to pulp paper and industrial plants.

Address Box 992

AGENTS WANTED

To sell an apparatus for reclaiming used crank-case oil. The only reclaimer that restores the original flash to heavy and extra heavy oil. Write or wire at once as territory is now being allotted to desirable agents. Miller Oil Purifier Co., 1007 Constance St., N. S. Pittsburgh, Pa.

CHEMIST OR CHEMICAL ENGINEER WANTED

recent graduate with B. Chem. or B. S. degree. In reply give full details concerning yourself.

Roxana Petroleum Corporation,
Wood River, Illinois.

SALES REPRESENTATIVES

Manufacturers of the Periscope Liquid Gauge seek desirable sales representation. This instrument measures to a gallon gasoline sold, delivered and on hand. Over one thousand installed on storage tanks in filling stations in Ohio. An item of proven worth. Non competitive and a virgin field.

Salesman must be able to finance himself but in return we pay a liberal commission and offer an unusual opportunity for big earnings. Desire to connect with men of proven ability who can show a satisfactory sales record.

Rippner Bros. Manufacturing Co.
2125 Superior Ave., Cleveland, Ohio

Advertisers having box numbers should be addressed in care of National Petroleum News, 1213 W. 3rd St., Cleveland, Ohio, unless otherwise specified.

Business Opportunities

BLAW-KNOX WANTS GRATING DISTRIBUTOR

Are you the man or the firm who can make a success of selling Blaw-Knox Security Steel Grating and Open Flooring in your locality? This Grating has five points of primary advantage over others in the market and is extremely easy to sell as its advantages are immediately apparent. It is extra strong, electro-forged in one piece, has positive non-slip features, gives maximum lighting and ventilation and can be 100% effectively galvanized or painted. This new grating is causing a sensation among buyers. The Blaw-Knox Company, well known manufacturers of steel specialties, have a few good territories open for distributors who are in a position to sell engineers, architects, contractors, industrial plants, etc. Preliminary correspondence is invited. Tell us what lines you now handle, the extent of your organization, and the territory you cover.

Blaw-Knox Company, Pittsburgh, Pa.

Wanted to Buy

THREE COMPARTMENT FORD TRUCK TANKS WANTED. 300-gallon capacity. State full particulars and best cash price in first letter. Also interested in used curb pump and kerosene pumps. Address C. S. Price, Mount Union, Pa.

For Sale

IDLE AND PORTABLE SOUTHWESTERN EQUIPMENT. Fractionators, absorbers, stills condensers, exchangers and complete plants Priced to move. W. F. Pyne, 909 So. Ardmore Ave., Los Angeles, California.

Miscellaneous

WHAT IT COSTS

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Texas Pacific Coal & Oil Co.
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Tokheim Oil Tank & Pump Co. 75
Transcontinental Oil Co. 2
Truscon Steel Co.

Union Metal Mfg. Co.
United Filters Corp. 46
U. S. Air Compressor Co.
United States Cast Iron Pipe & Foundry Co.
Universal Oil Products Co. 50–51

Vacuum Oil Co.
Viking Pump Co.
Vilter Mfg. Co.
Vogt Machine Co., Henry 82

Wackman Welded Ware Co.
Wadhams Oil Co.
Walworth Co. 3
Warren Refining & Chemical Co.
Waukesha Motor Co. 39
Wayne Co.
Westcott & Greis, Inc.
West Coast Lumber Bureau
Western Iron & Foundry Co.
Wheaton Brass Works, A. W. 31
Wheeling Steel Corp. 4
Widdell Engineering Co., Inc.
Williams Sealing Corp.
Willock Oil Corp.
Wilson Welder & Metals Co., Inc.

Youngstown Welding Co., The